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Southwestern Medicine

THE N.Y. ACAD. OF MEDICINE
JUL 29

VOLUME XXVIII — EL PASO, TEXAS, JULY, 1948 — NUMBER 1

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Attend the

Southwestern Medical Association Meeting

October 28, 29 and 30

El Paso, Texas

28-31
1948-50

Official Journal of the
El Paso County Medical Society
and the
Southwestern Medical Association

Southwestern Medicine

Journal of
EL PASO COUNTY MEDICAL SOCIETY
and
SOUTHWESTERN MEDICAL ASSOCIATION

VOL. XXVIII JULY, 1948 No. 1

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First National Bank Building, El Paso, Texas

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Southwest National Bank Building, 310 North Stanton
Published at 223 South Oregon, El Paso, Texas

Five dollars per year 50c single copy

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Southwestern Medicine Renewed

With this issue Southwestern Medicine is again active. It is the purpose of our publication to present timely, well written scientific articles of general interest to all southwestern physicians. In addition, news of interest will be published in each issue. We solicit such news from county medical organizations, medical auxiliaries, and individuals.

Any physician having a paper on any medical subject is cordially invited to submit it for publication in Southwestern Medicine, provided it has not been published elsewhere. Articles for publication should be typewritten, double-spaced, with proper references when necessary. All papers submitted for publication will receive careful consideration by the editors. Case reports, with pertinent data, will be acceptable.

A letter department will be conducted and letters on any medical subject from any physician will be published in each issue. They will be edited, of course, and libelous material will be deleted. All letters must be signed, though the writer's name may be withheld at the discretion of the editors.

We intend to be broad in the material covered and we earnestly seek the co operation of every medical organization and individual physician in the Southwest. We believe we can publish a journal that will be welcome to every doctor in our territory.

Comments on the Yale Plan

produces are
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Laboratory of
Applied Physiology, thus assuring highest type of leadership.

No single problem is of greater importance, particularly to people of high school age, in which group early exposure to alcohol takes place. Sound knowledge of the facts concerning early exposure would be most valuable. It is this aspect of the Yale Plan—education of young persons about alcohol—that is most important.

Two El Paso men, Mr. George Matkin, vice-president of the State National Bank, and George Turner, M.D., have accepted places on the Advisory Board of this enterprise. Its progress will be noted with keen interest and recorded in our pages as seems fitting.

To Operate Dallas Clinic

The Yale Institute of Alcohol Studies in the Southwest, recently organized under the auspices of The Yale University Laboratory of Applied Physiology, Texas Christian University, and other Texas institutions, will operate a clinic in Dallas and a summer school of alcohol studies in San Antonio.

The clinic will maintain both in-patient and out-patient services and will accept referrals from all sources. Medical, psychiatric, and psychological treatments will be provided.

A summer school of alcohol studies will be operated in San Antonio at Trinity University. It consists of 60 lectures and is operated for the benefit of those engaged in activities in which a thorough knowledge of the facts about alcohol are particularly useful. The course will be conducted directly by the Yale University Laboratory of Applied Physiology staff, assisted by Texas personnel.

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PELVIC ENDOMETRIOSIS

CLEMENT C. BOEHLER, M. D.
EL PASO, TEXAS

The term, pelvic endometriosis is very descriptive, as it denotes endometrial implants on any surface in the pelvic cavity. This pathological entity is an intensely interesting problem to the gynecologist. The study of the etiological factors is very fascinating, and the diagnosis and treatment is always a challenge to the diagnostic acumen and surgical judgment of any surgeon dealing with the disease in women.

Sampson's theory of retrograde menstruation through the tubes, with subsequent implantation of viable endometrial cells on the peritoneal surface, can explain practically every case of pelvic endometriosis.[4] The surface of the ovary is usually the first and is the most frequent site for the transplanted endometrium. The other areas most frequently involved in the order named are: uterus, cul de sac, ligaments of the uterus, tubes, bladder and appendix.[2]

The transplanted cells encyst themselves, and, under the stimulation of the ovary, the islands of endometrium menstruate. Since there is no avenue of escape for the menstrual blood from the encysted endometrial transplants, a blood cyst develops just as a sebaceous cyst develops when a sebaceous gland duct is sealed off. With the subsequent menstruations the cyst enlarges and may rupture, sowing more viable and virulent endometrial cells in the pelvic cavity.

These may appear as small bluish cysts, or the color may vary from dusky red to brownish black, depending on the state of preservation of the encysted blood; and, progressing further, to ovarian cysts known as "chocolate cysts of the ovary," because the cyst is filled with chocolate colored syrupy fluid. The extent of the disease may vary from a chance finding of a bluish vesicle on the ovary to complete involvement of all pelvic organs in a tangled mass with bowel all firmly adhered together.

Thus it might appear that the endometrial implants were distributed as if sprinkled with a salt shaker over the posterior aspect of the broad ligaments and uterus and in the cul de sac. Frequently, on opening the abdomen, the first impression is of a brown, mottled pelvis is that the pelvis had been splattered with tobacco juice.

It is this distribution of the endometrial implants, plus the fact that they occur on the superior and lateral surfaces of the ovaries which are most accessible to the menstrual blood as it exudes from the fimbriated end of the tubes, that offers conclusive evidence for the correctness of Sampson's theory. In passing it should be noted that it has been the American gynecologists who have made the greatest contribution toward the understanding and treatment of endometriosis.

As in other tumors, the final diagnosis of pelvic endometriosis is based on definite microscopic criteria. First, the tubular glands have to be exactly like the glands found in the endometrium. Second, the glands like that in the uterine endometrium must be surrounded by cellular stroma.[3]

The pathologist frequently fails to confirm the post-operative diagnosis of endometriosis. However, it must be pointed out that the pathologist is frequently handicapped because he frequently receives specimens that are badly torn in their removal or are so distorted as a result of repeated menstrual bleeding and desquamation into the closed cavity that all trace of the original endometrium may appear lost. But perseverance and cutting of more sections from other areas will yield sections in a vast majority of cases that will demonstrate both the glands and surrounding stroma.

Recalling the above remarks about etiology and pathology of pelvic endometriosis, one can easily visualize these misplaced islands of endometrium as miniature uterii which are dependent upon the ovarian hormone for their existence, as well as reacting to the ovarian influence in the same manner as normally placed endometrium in the uterus. This fact is dramatically demonstrated in a case mentioned by Curtis in his text book of gynecology. A pathologist, without knowing the history, was able to make the diagnosis that the patient was pregnant because of decidual reaction in a small area of endometriosis in the appendix that had been removed from a woman three months pregnant.[1]

One is also able to visualize why these patients almost always have pelvic discomfort especially just before and during the menses. The pain may vary from slight to severe and almost unbearable. The dysmenorrhea is usually of the acquired type, i. e., beginning in the late twenties or early thirties, and frequently referred to the rectum of sacro-coccygeal region.

The history of sterility is a very frequent notation. It is often during a sterility study that attention is first attracted to the possibility of the existence of pelvic endometriosis. It is to be noted that pelvic endometriosis occurs more frequently in white women than colored women; also, it is more apt to occur in the unmarried or married woman who has delayed pregnancy for years by contraception than in a woman who is frequently or was recently pregnant. The physical finding of uterine fibroid is common. And there is invariably the finding of some obstruction to the free drainage of the normal menstrual flow, such as cervical stricture and especially retrodisplacement of the uterus.

Hence, if the possibility of gonococcal and postabortive infection can be excluded in a woman who, in the childbearing period, prosents a history of acquired dysmenorrhea and sterility, plus the pelvic findings of an adherent tender ovary or ovarian cyst and/or a tender nodule or nodulation posterior to the cervix in the utero-sacral ligaments or in the rectovaginal septum and a retroverted fixed uterus, the diagnosis of pelvic endometriosis can be definitely established.

Lesser degrees of endometriosis are seldom diagnosed preoperatively. But in moderately advanced cases it is possible to make an accurate clinical diagnosis by securing a good gynecological history and doing a good pelvic examination. To be able to make a clinical diagnosis of endometriosis or even suspect that it might exist is of utmost importance. Inasmuch as the situation can be thoroughly discussed with the patient because of her desires for reproduction, her age, the amount of discomfort, the extent of the

lesions and the possibility of secondary operation following conservative survery, will all be governing factors as to when and what type of treatment will be instituted.

As pointed out previously, there are all degrees of pelvic endometriosis. For a case with minimal pathology of a single small ovarian cyst with acquired dysmenorrhea, hormone therapy with testosterone is frequently successful in controlling the endometriosis. At least, it may carry the patient to an age period when more radical treatment would be less objectionable, and, meanwhile, have given the patient the opportunity to become pregnant.

Removal of both ovaries and all or part of the endometrial implants would, of course, cure the disease. But we are usually dealing with a woman in her early thirties who is desirous of being pregnant. Hence, conservative surgery would be the idealistic choice. Clinical experience has proven that conservative surgery is the most satisfactory.

The majority of gynecologists abhor the common, prevalent practice of resecting small simple cysts from the ovaries. In the treatment of endometriosis it is often necessary to remove up to three-fourths of the ovarian tissue. And such a step may still be classified as a conservative surgical procedure.

Secondary therapy is necessary in about 45 per cent of cases, following conservative surgery.[5] Conservative surgery means preservation of childbearing capacity as well as some ovarian function. However, it means so much to most women to know that they will menstruate and not be thrown into the torments of premature menopause and that their chances of becoming pregnant will be increased up to 40 per cent, that the majority of women will run the risk of a secondary operation after all the pros and cons of the case have been explained to them.

X-ray therapy is frequently substituted for the secondary operation, the dosage varying from that necessary to produce temporary amenorrhea to complete castration. The latter is especially valuable and is preferable to surgery in bladder, rectal and bowel implants, even if partial obstruction has occurred.[5]

It is evident that the treatment for pelvic endometriosis should be conservative when at all possible. However, every case has to be individualized with all factors being considered. In general, it may be said that when in doubt it is better to err being too conservative in your treatment than to err being too radical.

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EXOPHTHALMOS

EDMUND B. SPAETH, M. D.
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Exophthalmos is a condition which involves practically the entire bodily structure when considering underlying etiology. The displacement of the eyeball or eyeballs is symptomatic and frequently calls attention to the etiology in a rather dramatic manner. When exophthalmos is present one cannot disregard that finding, and the cause must be determined conclusively in every instance. The ophthalmologist may be the first individual to see the case. In spite of that, excluding those situations which are ocular, and ophthalmic surgical problems, he needs the assistance of his fellow colleagues in medicine for the satisfactory treatment of the condition.

Unilateral and bilateral exophthalmos are a common symptom of orbital pathology. Unilateral exophthalmos is not of necessity similar, etiologically, to the bilateral condition. There is no doubt that many conditions of unilateral exophthalmos may be simply incomplete in terms of bilateral involvement. Of this, exophthalmic goiter is perhaps the outstanding example. It is just as true, however, that many different conditions have as a primary characteristic the unilateral displacement of the eyeball. Involvement of the opposite side in such cases would be secondary and not consequent. Orbital neurofibromatosis is a satisfactory illustration of this variety. It seems, therefore, that unilateral exophthalmos may be considered as a definite clinical entity.

A classification of unilateral exophthalmos follows:

Anatomical.

1. High degrees of unilateral myopia. Staphylomata.
2. Defects in the vault of the orbit. Meningocele and meningoencephalocele.
3. Exophthalmos with ocular hypertension, i. e. glaucomatic staphylomata.
4. Exophthalmos with arterial hypertension, i. e. orbital visual pathology.
5. Pseudo-exophthalmos from retraction of the lids. Pseudo-Graefe syndrome.
6. Intermittent exophthalmos.
7. Pituitary gland pathology.
8. Exophthalmos from cervical sympathetic irritation.

Traumatic.

1. Fracture of the orbit, orbital emphysema (from fracture into nasal accessory sinuses), retrobulbar haemorrhage.
2. Laceration and rupture of the extra-ocular muscles.
3. Traumatic evulsion of the globe.
4. Birth trauma, intra-cranial internal carotid aneurysm.
5. Foreign body in the orbit.
6. Pulsating exophthalmos, arterio-venous aneurysm.
7. Retrobulbar haemorrhage, as from whooping cough.

Inflammatory. These may be either acute, subacute, or chronic. Their order, herewith, is roughly the sequence of their chroniicty.

1. Retrobulbar cellulitis.
2. Retrobulbar phlegmon.
3. Retrobulbar abscess.
4. Thrombophlebitis of the orbital veins.
5. Cavernous sinus thrombosis.
6. Erysipelas.
7. Tenonitis (at times suppurative).
8. Periostitis. Luetic and tuberculous, but not to include gummata. Pseudo-tumor. Lacrimal sac pathology. Tuberculoma.
9. Orbital mucocele, cholesteoma.
10. Orbital exostosis.
11. Paget's disease, with hyperostosis.
12. Actinomycosis. Trichinosis. Mycotic pseudotumor.
13. Xanthomatosis. Schuller-Christian syndrome.
14. Ocular Myositis.

Diseases of the Blood and the Lymph and the Haematopoietic System.

1. Rickets, Suervy. Hemophilia.
2. Lymphosarcoma. (Piney; lymphoblastic.)
3. Acute and chronic lymphatic leukemia. Lymphendothelioma. Milulicz's disease (Wolff; malignant lymphoma).
4. Hodgkin's disease. (A sclerosing type of lymphoma.)
5. Myeloblastoma; chloroma. (A bone marrow picture.)
6. Myelogenous leukemia. (Premyelocytes and myelocytes.)
7. Arterial aneurysm of the ophthalmic artery.

Space Taking Lesions. The order here is roughly the degree of malignancy.

1. Dermoid cyst. Sebaceous cyst. Gumma.
2. Fibroma.
3. Neurofibroma.
4. Lipoma.
5. Osteoma. Osteofibroma. Bone cyst.
6. Myxoma.
7. Chondroma and chondromyxoma.
8. Cylindroma of lacrimal gland.
9. Psammoma.
10. Adamantinoma.
11. Lymphangioma and hemangioma.
12. Plasmoma.
13. Meningioma or endothelioma. (Sphenoidal ridge—see 16).
14. Rhabdomyoma.
15. Glial tissue tumors as neuroma, neuroblastoma, retinoblastoma, spongioblastoma polare.
16. Sphenoidal ridge tumors.
17. Carcinoma.
18. Sarcoma. Mixed cell tumors, Intra ocular sarcoma.
19. Malignancy from the nasal accessory sinuses. These to include carcinoma, sarcoma, psammoma, chondroma, and myxoma.
20. Metastatic malignancy as osteogenetic sarcoma, adenocarcinoma, hypernephroma, etc.
21. Unilateral exophthalmos from brain tumor—without orbital extension; mechanical causes, as edema; and with extension into the orbit. Two per cent of all unilateral exophthalmos is due to brain tumor.

BILATERAL EXOPHTHALMOS

The classification of bilateral exophthalmos is much more simple.

Anatomical.

1. Defects in the vault of the orbit, very rare.
2. Bilateral exophthalmos from toxic goiter.

3. Bilateral exophthalmos from pituitary gland pathology.

Traumatic.

1. Gunshot wounds and perforating wounds involving both orbits.
2. Birth traumata, the bilateral extension from arterior-venous aneurysms and perhaps retrobulbar haemorrhages.

Inflammatory.

1. Bilateral retrobulbar infections and suppurations.
2. Thrombophlebitis of the orbital veins.
3. Cavernous sinus thrombosis.
4. Erysipelas.
5. Xanthomatosis, as the Schuller-Christian syndrome.

Diseases of the Blood and the Lymph and the Haematopoietic Systems.

1. Rickets.
2. Scurvy.
3. Hemophilia.

The symptomatology of the lymph and the haematopoietic systems is essentially unilateral; and in the space taking lesions, unilaterality is the outstanding characteristic.

Of the unilateral conditions those which are anatomic are almost wholly conditions other than ophthalmic. The traumatic conditions are, as would be expected, either ocular or neurosurgical.

Those inflamatory in origin are everything but purely ophthalmic; in addition to that factor is the seriousness of these states. The unilateral exophthalmos of diseases of the blood and the lymph is of course symptomatic, nevertheless the original diagnosis is frequently first made by the ophthalmologist or upon his insistence the examinations are done which uncover the true condition.

Space taking lesions in the orbit merit more comment than the mere listing of possibiliites. The first of those detailed steps are benign, purely local, and fairly readily handled by the ophthalmologist. The facio-maxillary surgeon and the neurosurgeon are needed for such conditions as adamantinoma, for chondroma, and for the defects connected with some of the others detailed. The neurosurgeon must handle meningiomata, glial tumors and sphenoidal ridge tumors. The remainder of the space taking lesions in the orbit are serious prognostic and diagnostic problems: As a matter of fact an ordinary chest film is the first thing one thinks of in almost every case of unilateral exophthalmos. That statement calls attention to the frequency of metastases—wherein the metasteses is so frequently the first sign of a hitherto unknown primary lesion.

Of all the various forms of exophthalmos related to general medicine and surgery the most interesting and exacting is the exophthalmos of pituitary and thyroid gland pathology. Indulgence is asked here to permit an ophthalmologist to talk about these in a little more detail. It is rather likely a rehash of information already generally disseminated, but it is relevant.

Pituitary gland pathology is manifested by unilateral as well as bilateral exophthalmos. There may be no roentgen-ray differences in the optic foramen nor are ocular motor disturbances necessarily present. The condition seems to be due to a retrobulbar venous stasis. Naffziger states that this is most prominent with the eosinophilic form of adenoma of the pituitary gland. Unilateral exophthalmos from toxic thyroid pathology is unusually interesting. The author has no explanation to offer for the unilateral development of this in some instances, while in others it is essentially bilateral. The following observation has been made, however. Malignant exophthalmos is rather likely unilateral, or if not unilateral it affects the eyes unequally. From a surgical standpoint, malignant exophthalmos, especially that variety which develops following thyroid gland surgery, is a serious condition and most difficult to combat. The exophthalmos which occurs with thyroid pathology when the basal metabolic-rate is within the normal limits, was spoken of as paradoxical exophthalmos by Zimmerman, and he rightly considered this as the more severe of the two forms, that is contrasting the exophthalmos with a high basal metabolic-rate with that of a low basal metabolic-rate. Plummer and Wilder feel that exophthalmos with a low metabolic-rate is an uncontrolled function

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of the anterior lobe of the pituitary. Other possibilities are based upon the two-product hypothesis of Plummer, that some abnormal product continues to act after the output of the normal product, thyroxin, has been curtailed.

It is rather certain that cases of malignant post thyroidectomy exophthalmos are due to a polyglandular upset consequent to the thyroid extirpation and that these cases should not have had this operation performed. The first of the two conditions is a toxic thyroid situation, the second is a pituitary impelled condition caused by the loss of thyroid restraining secretions. The bichemistry of the two conditions needs to be mentioned here only very briefly. Dunningston's explanation, following the suggestions of Mann, are as follows:

1. Cases of excessive secretion of thyroxin with normal amount of anterior pituitary hormone. These cases are those manifesting only the ocular signs of overaction of unstriped muscle. The ocular manifestations usually disappear with control of the hyperthyroidism, and more or less normalcy is regained. In these cases pathologic examination of the orbital tissues is usually negative.

2. Cases of primary deficiency of thyroxin with compensaitng excess of thyrotropic hormone secretion. These cases manifest edema of the lids and conjunctiva, impaired ocular motility and an irreducible proptosis. There is an absence of lid retraction, and the thick coarse appearance of the skin is more suggestive of myxedema than of hyperthyroidism.

3. Cases of primary excess of thyroxin followed by thyroid failure or removal, with subsequent excess of thyrotropic hormone. The initial symptoms are characteristic of a thyrotoxicosis while the later signs are indicative of overactivity of the thyrotropic hormone. Every physician has seen cases in which, following a thyroidectomy, there developed a distressing increase in exophthalmos. The interval after operation may vary from a few weeks to several years. In these cases the lids become edematous as do the conjunctiva and orbital tissues, and an increasing irreducible proptosis ensues. Associated with this increase in bulk of the orbital tissues is oftentimes an annoying epiphora ,probably the result of a dacryadenitis. The earliest signs of overactiivty of the thyrotropic hormone are a slight edema of the lids and conjunctiva with an increase in lacrimation, and particularly significant is the subjective complaint of diplopia. The presence of a disturbance of ocular motility is an early manifestation of orbital eedma affecting the ocular muscles and this finding is most suggestive of excessive action of the so-called thyrotropic hormone. The overactivity of this anterior pituitary hormone is frequently held in check by the excess of thyroxin. When the thyroxin supply is removed or reduced materially by operation or medical means, the thyrotropic hormone runs amuck, and the distressing condition known as malignant exophthalmos or exophthalmic ophthalmoplegia occurs. Let the surgeon, therefore, beware of operating upon any patient showing these signs, and if they should arise following operation, it is neecssary to raise the metabolic-rate to stop the progress of the disease. At the same time measures must be taken to safeguard vision.

4. Cases of simultaneous excess of thyroxin and thyrotropic hormone. In addition, one also sees cases manifesting a simultaneous oversecretion of both the thyrotoxic and thyrotropic hormone. In these cases there are the classical signs of thyrotoxicosis, which are, along with edema of the lids and conjunctiva, impaired ocular motility and irreducible proptosis, in other words all the manifestations of overactivity of the so-called thyrotropic hormone as well. The management of this group is a very difficult problem, the exact answer for which is unknown. In some cases medical treatment for the hyperthyroidism is successful, while in others the thyrotoxicosis is so severe that thyroidectomy is indicated. In any event, measures must be taken to prevent loss of vision from the increasing protrusion of the eyeballs.

No attempt is being made to discuss the treatment of the varying conditions which cause a unilateral or bilateral exophthalmos. Some of the conditions are pure medical problems. These will include such cases as thyrotoxic exophthalmos, luetic or bilateral conditions, rickets, diseases of the blood and lymph sys-

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tems. Other cases are essentially surgical, as pulsating exophthalmos, arterio-venous aneurysm, the exophthalmos of space taking orbital lesions, and the exophthalmos of intra-orbital foreign bodies. Other conditions need a combination of surgery and medical treatment. Such conditions are orbital mucocele, thrombophelbitis of the orbital veins and cavernous sinus thrombosis.

It would be rather difficult to consider exophthalmos as a condition limited wholly to the realm of the ophthalmologist. Even high myopia with its exophthalmos cannot be so secluded. It would be quite impossible for the ophthalmologist to treat these various conditions without the assistance of the internist, the general surgeon and the neurosurgeon. As a matter of fact, in many instances the ophthalmologist, of necessity, plays a very minor role.

CONCLUSIONS

An etiological classification of exophthalmos has been presented with somewhat more detailed comments about the exophthalmos of thyroid gland pathology to emphasize one point; that is, to call attention to the many many different conditions which have as an outstanding sign a pathological protrusion of the eyeballs and the multiple demands for the best treatment of them.

Read at the November, 1947, Meeting of the Southwestern Medical Association

October Dates Set for Southwestern Meeting

The Fall meeting of the Southwestern Medical Association has been set for October 28, 29 and 30, in El Paso, Dr. Leslie M. Smith, president of the group, has made known. Association headquarters will be located in Hotel Cortez.

Details of the program are yet to be worked out, Dr. Smith said, but preliminary preparations have been made. The meeting will be divided into professional and social activities with outstanding lecturers already assured in the former category. Entertainment will include golf and a college football game on the Saturday after adjournment.

Indications point to a particularly interesting program for the October meeting, Dr. Smith said, and all members are urged to participate.

Dr. Willard Schuessler is general program chairman. Reservations should be made through El Paso hotels.

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PARANASAL SINUSITIS

M. P. SPEARMAN, M. D., F. A. C. S.
EL PASO, TEXAS

PART I

To the trained otolaryngologist the extent of misinformation concerning the sinuses in disease and health is sometimes astonishing. Such misinformation is not completely confined to the laity. Too often one's colleagues in other fields of medicine are heard to say, with utter sincerity, that "one sinus operation leads to another," or "I've never seen a sinus cured." It is perhaps the fault of the otolaryngologist that he has not unedrtaking a more comprehensive course of education of both his colleagues and the laity regarding this phase of the practice of medicine.

Some, surgical nihilists, have attempted to treat all cases of sinal disease with drugs and with physiotherapy. Others see a surgical problem in most diseased sinuses. It is the duty of the otolaryngologist today to so equip himself with basic knowledge and judgment that he may thereby be enabled to chart a middle course between the two above suggested. And, in so doing, he will serve the cause of his sometimes maligned specialty; but more important, he will better preserve the health of his patients.

Disease of the tissues of the sinuses is not greatly different from disease of soft tissue anywhere else in the body. There is inflammation, the production of swelling, of pus; there may be fibrosis and consequent thickening; there may be new growths; there may be impairment, and destruction of function; there may be putrefaction and necrosis. Much the same type of organisms gain inroad into sinus tissue as elsewhere. Differing in location from other tissues, sinal membranes may give different symptoms when diseased. One would not expect abdominal cramps from an acute maxillary sinusitis, yet headache would certainly be not unexpected; too, the swallowing of copious quantities of sinal discharge might lead to such symptoms ar anorexia, nausea and vomiting.

ANATOMICAL AND FUNCTIONAL

The paranasal sinuses may be divided into two groups, viz., anterior and the posterior. Comprising the anterior group are the maxillaries, frontals, and anterior ethmoid cells. The posterior group is made up by the posterior ethmoid cells and the sphenoid sinuses. Sinuses take their names from the bones in which they are located. The anterior group drains into the middle meatus, while the posterior group drains posteriorly into the superior meatus. Sinuses vary a great deal anatomically, as to size, capacity, configuration, etc. The ethmoid cells may be few or many in number. Sometimes one or both frontal sinuses may be apparently congenitally absent. This point is worth remembering in transillumination. The author has operated on maxillary sinuses exhibiting a bony partition so placed that the sinus was divided into two definite cavities. The position of the natural openings of the sinuses may also vary widely. In attempting to probe or irrigate via the ostia, this anatomical deviation must be borne in mind.

Simply stated, sinuses are cavities in the skull, communicating with the air chamber of the nose through very small openings. The cavities serve to lighten the skull in total weight, and because they are lined with a tissue rich in blood supply (normally) aid in warming and conditioning the inspired air. The tissue lining the sinuses is rather thin, contains goblet cells which secrete a mucoid fluid, numerous capillaries, a basement membrane, and is ciilated. Normally the cilia beat rhythmically toward the ostium, carrying foreign particles such as dust, bacteria, or pollen on a blanket of mucus out of the sinus via its ostium into the nasal cavity. From here the foreign material may be carried on a mucous sheet posteriorly to the nasopharynx.

The nasal sinuses and the chest are connected via a network of lymphy channels and glands. The antra and frontal sinuses drain into the upper and middle deep cervical glands, sub-maxillary glands, tonsils and bronchial glands. The antra and tonsils drain into the glands of the hilum, and from there, into the bronchial tree.

A healthy sinus is one that is moist with mucous and has its cilia beating toward an open ostium. Impairment of these functions leads to disease. Likewise ,treatment of a diseased sinus should be directed toward re-establishment of full function, the objective in therapy of any diseased tissue elsewhere in the body. Therefore, it is imperative that one possess an understanding of the effect of certain procedures upon the sinal membrane.

PATHOLOGY AND BACTERIOLOGY

Acute infections lead to impairment of the ciliary movement. Subacute and chronic infections show destruction of the cilia and goblet cells, depending on the length and severity of the infection. The basement membrane may become edematous and thickened, with an increase of connective tissue. There may be colonies of bacteria imbedded in this membrane. Surrounding these colonies there will be found cell debris and leukocytes, products of chronic inflammation. Free pus may bathe the sinal membrane. As the process becomes more chronic there may be polyp formation, cysts, or mucoceles.

Depending upon the extent and chronicity of the pathology present in the sinal membrane, there may take place some tissue regeneration, provided that the infection is brought under control, and the products of inflammation are removed.

Allergy plays a part in the process, but to what extent has not been completely shown. At birth the sinuses are practically sterile, but shortly afterward many types of bacteria can be isolated from the membranes. No adults have sterility of their sinuses, and most individuals have persistent, ever-present pathologic changes demonstrable in their sinal membranes. Yet not all eventually acquire clinical sinusitis. It is when a definite point of tissue involvement is reached that the sinus becomes diseased clinically. That point of pathological involvement varies with the individual, his immunity, structural peculiarities, the virulence of invading organisms—all such intangibles that predictions in individual cases are quite impossible. Nearly all known bacteria have been found in human sinuses. Most frequent are various strains of staphylococci, pneumococci, colon and influenza bacilli. Fusiform bacilli and various spirilli have been isolated. In chronic infections the streptococci tend to become the dominant strain present. Blood supply to the chronic inflammation area of the

sinal mucosa tends to diminish, being decreased by the edma, fibrous tissue, etc. Hence the nests of bacteria imbedded in the membrane may never be reached by blood-borne chemicals such as the sulfonamides. Local applications or irrigations likewise fail to sterilize the imbedded colonies of bacteria, It follows then, that the chronic membrane is best treated by surgical removal. That is a highly practical fact to use in rendering a verdict as to indicated treatment in any given case of sinusitis.

EFFECT OF PHYSICAL AND CHEMICAL AGENTS

Many workers, including Fenton, Larsell and Proetz, have shown that the sinus mucosa reacts most positively to various extraneous agents. In this, these membranes closely resemble the nasal mucosa.

Chilling of the membranes may cause a primary shrinkage, to be followed by secondary engorgement and swelling. A large amount of mucous may next be secreted as a protective measure. The tissues are highly sensitive to heat and cold, and respond actively to such stimuli. Temporary damage is easily inflicted, and the tissues are rendered susceptible to further bacterial invasion. Such a sequence may mark the beginning of an acute coryza with sinus complications. The sinuses are concurrently inflamed with the nasal tissues at the time of a common cold. As the cold is brought under control, the sinal membranes tend to regain their former status along with the nasal membranes. Sometimes, due in some cases to poor drainage or wrong medication, sinal membranes become chronically inflamed. This condition obtains in the so-called "chronic cold"—a misleading term. The "chronic cold" is not a cold at all, it is, in reality, a subacute or chronic sinusitis.

Since the sinus mucosa is a highly specialized, rather delicate tissue, it would seem prudent to exercise a great deal of care in the choice of local medication. Various drugs produce profound effects on the sinus mucosa. Adrenalin, cocaine, menthol, phenol, mercury derivatives, and silver salts are some of the agents that may paralyze or kill the cilia. To impair the function of the cilia is to destroy one of the first lines of defense of the body. Oils of various sorts interfere with the action of the cilia and the blanket of mucous. Hypertonic or hypotonic solutions of any sort exert a deleterious effect upon the sinus mucosa. The use of non-vegetable oils as nose drops in the very young or the aged is fraught with danger, in that numerous cases of a lipid pneumonia have been traced to this practice. Extreme heat or cold or dryness of the inspired air affect the nasal and sinal membranes adversely. In intranasal and sinal medication, a good rule to follow is that of avoiding the use of any strong or stinging type of drug. The majority of inflamed sinuses will become clinically well if too much and too vigorous treatment is not used. The watchword in the management of acute, uncomplicated sinusitis is "gentleness," coupled with a vast respect for the integrity of the tissue involved. The sinal tissues are rather marvelously equipped to withstand and throw off infection, and will usually do so if not subjected to too much well-meant interference. Warm, isotonic solution of sodium chloride is often comforting and helpful to an inflamed nasal membrane. Other solutions, such as ½% ephedrine or ¼% to ½% neosynephrin, in a vehicle of physiologically normal salt solution, are useful and stimulating to nasal nad sinal membranes. The above mentioned medicaments do not exert a bactericidal effect. They cleanse mechanically and act as mild vasoconstrictors. This action tends to promote patency of the sinus ostia, necessary for drainage and aeration of the infected sinus. Of late, certain investigators report the use of weak solutions of the sulfonamides as nasal irrigations, claiming satisfactory results ni the treatment of nasal and sinal inflammation.

(To Be Concluded)

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VOL. XXVIII AUGUST, 1948 No. 2

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Published at 223 South Oregon, El Paso, Texas

Five dollars per year 50c single copy

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Amebiasis

A few cases of amebic infestation have been seen from time to time in the Southwest for many years However, the fact that this disease is more or less endemic in this community is not fully realized by those who should be the first to suspect it.

More and more amebiasis is being discovered by routine stool examinations for patients who sometimes have vague gastro-intestinal complaints. The classical story of alternating constipation and diarrhea or stools containing blood, pus and mucus is not the usual history but this can be elicited upon careful questioning many times.

In this summer period when so many people take short vacations to resorts, knowing little or nothing about the water, or the fresh vegetable and milk supply they will use, amebiasis often is acquired and its possible source forgotten.

By no means does all the amebiasis in this area come from Mexico, although the blame is most often blindly placed there. We can with profit look to our own sources of infestation. A most important point in controlling this disease before its nasty complications set in is for all physicians to consider its presence and in the absence of other definite reasons for abdominal complaints be suspicious of amebiasis.

Dr. D. M. Wiggins

El Paso and the Southwest is losing one of its most outstanding citizens in the acceptance by Dr. D. M. Wiggins, president of the College of Mines, of the presidency of Texas Tech at Lubbock.

Through farsightedness of the El Paso School Board, in 1932 Dr. Wiggins became president of Mines instead of an official of the Public Schools of El Paso. Members of the board wisely thought that Dr. Wiggins would perform more service to both the community and himself by assuming the leadership of Mines, which was then an infant gasping for air, than by associating himself with the elementary school school system, which itself needed good men. Their judgment is amply vindicated.

Sincerest and best good wishes from the medical profession go with Dr. Wiggins to Lubbock.

Cancer Detection

Much is being said about cancer detection centers, tumor clinics and cancer research. Much money is being spent to determine the cause of cancer and its cure. But success in this effort will not be read in tomorrow morning's newspaper.

By far the most important cancer detection center is every physician's office. Early diagnosis of this disease, and with early discovery its real chance of cure, must be made by physicians who see the patient first. They must suspect cancer from careful histories and thorough physical examinations, together with appropriate x-ray and laboratory studies. It is imperative that physical examinations include pelvic examinations with a speculum in women, and digital examination of the prostate in men. Breast examinations must be routine. All suspicious lesions must be biopsied and the tissue examined by competent pathologists. No doctor can be certain of his gross diagnosis in every case and will surely be fooled to his pain if he persists in this habit. This is a trite statement but it cannot be overemphasized.

Cancer detection centers and tumor clinics are helpful, to be sure, but early diagnosis, which at this time is the sole means through which a patient can be given a reasonable chance of cure (not five-year survival which is a poor yardstick to measure therapeutic effectiveness) is going to be made, not in "centers," but by average doctors in their daily work

Socialized Medicine

Attention of southwestern physicians is invited to news of socialized medicine, which is now in full effect in England. It is to our advantage to consider carefully the facts as they develop in this large-scale operation. There are those who would impose such a situation in the United States. We do not believe the best interests of either the individual patient or the public health will be served well if government control of medical practice is attempted in any way. Therefore let every physician question the attitude and record of the men who plead to represent us before our local, state, and national government.

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TUMORS OF THE ADRENAL GLAND

H. M. GIBSON, M. D.
EL PASO, TEXAS

Although the adrenal gland is anatomically simple, it is extremely complex physiologically. Not only is it composed of two separate glands, completely different from each other, the cortex and the medulla; but different parts of the cortex have different functions. Thus, any disorder of the adrenal gland leads to profound disturbances in the individual's physiology. Tumors of the adrenal produce especially bizarre patterns, the exact symptoms depending on the type of tumor, age, and sex of the individual.

Until recent years, the classification of adrenal tumors has been haphazard. Doctors Cahill and Mellicow of the Squier Urological Clinic, Presbyterian Hospital, New York, have given the following classification.

ADRENAL GLAND

Cortex: (1) Non functioning tumors. (2) Functioning tumors: (a) hormonal, masculinizing (adrenogenital syndrome) and femininizing; (b) mixed, meta-bolic and hormonal; (c) metabolic (Cushing's Syndromes).

Medulla: (1) Pheochromocytoma. (2) Non functioning nerve cell tumors. Sympathicoblastomas Ganglioneuromas. (Pepper Syndrome).

SYMPTOMS

The non-functioning tumors of the cortex and medulla give rise to mass symptoms, and being well protected, these tumors are not usually detected until quite large unless metastatic lesions give them away.

The functioning tumor of the medulla is known as a pheochromocytoma and liberates epinephrine in large quantities, giving rise to the paroxysms of hypertension frequently characteristic of this type of tumor. However, it must be remembered that many of these cases do not show marked variations in blood pressure. These tumors may occur at any age. It is possible that many cases of malignant hypertension were in reality pheochromocytomas.

In the majority of cases, Cushing's syndrome is not caused by pituitary pathology as was originally thought. The usual lesion lies in the adrenal and is either one of hyperplasia or tumor. Even in the glands not grossly enlarged, microscopic sections show tremendous proliferation of foam cells almost completely replacing the normal tissue. The picture that a typical Cushing's syndrome presents is not easily forgotten. The ruddy complexion, round face and "buffalo hump" produce a striking picture. All of these patients look as if they were members of the same family. Additional examination reveals the obese abdomen with striae, and the small legs below.

These patients usually complain of fatigue, and are frequently emotional, many becoming psychotic. Laboratory studies usually reveal disorders in the sugar metabolism suggesting diabetes mellitus.

The hormonal tumors produce symptoms according to the age and sex of the individual, and according to whether the tumor is femininizing or masculinizing. A femininizing tumor in a young girl would produce precocious puberty. One in an adult woman would produce few, if any, symptoms. The same holds true for masculinizing tumors occurring in males.

If a masculinizing growth occurs in a female of any age, marked masculine characteristics appear. In the new-born, it may produce a pseudo-hermaphrodite. A girl a few years old becomes a boy as far as outward appearances are concerned. In the adult woman, the menses stop, the voice deepens, and the body becomes more muscular, but the most frequent complaint is hirsutism.

Feminizing tumors occurring in adult males are extremely rare, but when they do occur, the man's voice becomes high, his breast enlarged and his fat distribution feminine.

DIAGNOSIS

The symptoms frequently give a strong lead as to the proper diagnosis. X-rays and laboratory tests are usually needed to accurately localize the tumor. Perirenal airinsufflation is of great help in determining which side is involved. Intravenous pyelography is helpful.

The masculinizing tumors almost always cause an increase in the urinary excretion of ketosteroids. Determination of these values will sometimes show excretion 20 times the normal rate.

The only one of the tumors with a specific test for diagnosis is the pheochromocytoma. Several tests have been proposed which seek to produce an attack of hypertension. Histamine and mecholyl are the substances used to stimulate the production of adrenalin, but these tests in my opinion are not conclusive. The benzodioxaine test, however, is specific. A calculated amount is injected intravenously and as this drug neutralizes adrenalin—a marked fall in blood pressure results if the hypertension is due to an excess of epinephrine.

TREATMENT

Usual treatment is surgical removal of the gland. Masculinizing tumors stand surgery well. Because of the marked metabolic disturbances in Cushing's syndrome, the post-operative mortality is high. The pheochromocytomas are ticklish tumors to remove, because if they are stimulated too much, the patient will die on the table; but once the tumor is removed, they do well.

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Name New Associate

Drs. L. H. Breck and W. C. Basom announce the association with them of Dr. M. H. Leonard in the practice of orthopedics in El Paso.

Dr. Leonard is a graduate of Illinois University and received his orthopedic training at Northwestern University. He is married.

Any medical articles for publication, letters of comment, or news items will be welcomed by the editors. Address all communications concerning editorial matter to: D. von Briesen, M.D., First Natl. Bank Bldg., El Paso, Texas.

Tumor Clinic To Meet

The Tumor Clinic of El Paso, under direction of the El Paso County Medical Society, will continue to meet during the summer months, Dr. Maynard Hart announced recently.

The clinic will meet at the City-County Hospital every Tuesday at 1 p.m. All southwestern physicians are cordially invited to attend the meetings, bring patients they wish studied, or in any other way participate. Advantage of examination by specialists in all fields together with consultation and advice concerning treatment is offered.

The Tumor Clinic is associated with the American Cancer Society in the effort to promote earlier diagnosis and treatment of malignancies.

City-County Ups 1949 Budget Request

A City-County Hospital budget request of $302,950 for 1949 has been filed with El Paso City Council and the Commissioners Court by Dr. J. Leighton Green, chairman of the hospital board of managers.

The budget, calling for $32,000 over the 1948 figure, was termed by Dr. Green, "minimum for adequate operation of the hospital." The estimate provides for expenditure of $284,700 for in-patient treatment, on a basis of 130 patients per day, and $18,250 for the care of 50 out-patients daily.

The hospital board is also seeking Council approval on capital expenditures of approximately $20,000 to undertake the initial steps in a long range improvement program.



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PARANASAL SINUSITIS

M. P. SPEARMAN, M. D., F. A. C. S.
EL PASO, TEXAS

PART II

DIAGNOSIS

All is not gold that glitters; likewise, all is not sinusitis that appears so. Paradoxically more sinusitis is diagnosed than exists. The impression is rather wide-spread that to diagnose sinusitis is an easy task. Yet, to properly evaluate and assess the relative importance of sinus-like symptoms may tax heavily the best knowledge and diagnostic acumen that one possesses. Upon correct diagnosis will depend the treatment and outcome of each case. There are certain very definite steps in the diagnosis of sinus disease, and to do the job at hand correctly, these steps must be followed. An outline is given:

1. History.

Important to know is the history of the present illness, its development and course. What has been done, if anything, in the way of treatment? Have other similar attacks occurred, and what was done? How about the general history of the case? What illnesses, what operations? Is there anything of significance in the family history, such as allergy, syphilis, tuberculosis, insanity, cancer? Is there a postnasal drip or morning cough?

2. Physical Examination and Laboratory Aids.

This should be complete. It is essential to know the presence of generalized diseases. What is the nutritional state of the patient? What residual effect has been left by various diseases? In other words, what general equipment does the patient possess to aid him in overcoming diseases? And what order is it in? What reserve does it possess? The examination of the head and neck should include the pharynx as well as the teeth, tonsils, cervical glands. Note is to be taken of the nasal structures, including the septum, the turbinates, the meati. Inspection of the nose is done with a speculum, the nasoantroscope, the postnasal mirror. This should be done before and after the use of a mild shrinking solution in the nose. Is there deviation of the septum? Where, and how marked? Is proper ventilation impaired? Is there hypertrophy of the turbinates? Acute or chronic? Anterior or posterior? Is there adenoid tissue in the naso-pharynx? Is there pus? Where does it come from? What is the color of the nasal mucosa? What about the type of secretion and the amount? How do the tissues respond to shrinkage? Are there new growths present, or foreign bodies, or parasites, or malformations of any sort? Is there swelling of the eyelids? Or exophthalmos? Or limitation of motion of the eyes? Can pain be elicited on pressure over the frontals, the ethmoids or maxillaries? Sometimes a diagnostic lavage should be done. The washings should be inspected for type and amount of discharge. A cytologic study of the washings may give valuable information. Trans-illumination is of some value, although too much reliance can not be placed in the resulting observations. Allergic studies may be indicated, and when done must be thorough. Microscopic studies of smears made of nasal secretion are quite helpful. Roentgenograms are a highly necessary part of the diagnostic procedure. Various positions are used by various observers. The main point of this part of the examination is to get good clear views of the iar spaces. Sometimes x-rays should be made with the sinus filled with iodized oil. This procedure helps in the visualization of neoplasms, which show filling defects in the sinus contours. Also, by the use of iodized oil a fairly accurate measure of the thickness of the sinus mucosa may be obtained. This is important in estimating the chronicity of the inflammatory process.

3. Assessment of Psychological Factors.

For some reason, there are more neurotics about bowels and sinuses than of any other organs in the body. Every otolaryngologist has had patients who had normal sinuses, yet were bewitched with the obsession that they were suffering from sinus disease. So much hocus-pocus has been built up in the public mind regarding sinuses that many people easily develop neuroses, varying from mild to vicious, about their having sinus disease. It is extremely important to assess the psychological stability of the patient who presents himself with supposed sinusitis. This is another way of saying that each patient is a problem unto himself—that one will respond to treatment that gets nowhere with another. In this field, as in all medicine, one's first thought must always be of the patient as a complete individual, not just a human body supporting an interesting group of sick sinuses. During the questioning and examination of the patient, much can be learned of that person's hopes and fears, emotional stability, objectivity regarding himself, the probabilities of his co-operation, how disease and other troubles affect him. These things, too, enter in one's final judgment as to just what ails the patient, and what treatment should be chosen to get him well.

OUTLINE OF TREATMENT

Correct treatment is dependent on the correct diagnosis of the type of sinusitis present. Necessarily, treatment must be fitted to the individual case. The aim of all methods is, in the final analysis, to aerate, drain and restore the tissues to normal. Without going into too much detail, some of the procedures available in the treatment of sinusitis are:

1. Medical.

A. Shrinking solutions used as sprays, drops, irrigations, displacement packs.

B. Lavage with iodized oils, normal saline solution, shrinking solutions, antiseptic solutions.

C. Use of autogenous and stock vaccines, based upon the type of organism present.

D. Foreign protein therapy.

E. Use of anodynes as indicated.

F. Allergic study and treatment, using various tests and methods of desensitization.

G. The use of the anti-biotics such as penicillin, streptomycin, etc., not as inhalants, but by direct installation into the sinuses or parenterally, in large doses. Very often the effect of these agents is enhanced by the concomitant administration of the sulfonamides.

2. Surgical.

A. Basic
(a) Submucous resection, (b) removal of nasal polyps, (c) correction of all malformations in the air chambers of the nose, (d) removal of infected adenoid or tonsil tissue, (e) dental care of infected teeth, (f) correction of irreversibly diseased or hypertrophied turbinates.

B. Direct
(a) Nasoantral openings, with cristectomy, (b) complete operations such as the Caldwell-Luc procedure for the antra, the

Killian type for frontal surgery, the transantrumethmoid procedure in panisinusitis, exenteration of the ethmoid cells via the intranasal route. These operations aim to denude the infected sinuses of all membrane present.

3. Physical.

(a) X-rays and radium coupled with surgery, in neoplasms.
(b) Shortwave diathermy.

In acute sinusitis, where irreversible changes have not occurred in the diseased tissues, medical treatment should be chosen. The inflamed membranes must not be subjected to too much manipulation and interference. In subacute sinusitis, one should generally use medical measures first. If success is not thereby attained, the basic surgical procedures are indicated. In chronic sinusitis, or that which is complicated by neoplasms, the more complete surgical measures are indicated. In the chronic type of sinus disease the membranes have undergone irreversible, fibrotic changes. No amount of vaccines, drops, sprays, allergy therapy, vitamins, irrigations, x-ray, diathermy, and the like, can effect a cure of a sinus so diseased. The fibrotic membrane, often pyogenic because of imbedded bacterial neses, must be completely removed and adequate drainage and aeration provided. This can only be accomplished by the use of complete surgical procedures. The word "complete" is used rather than "radical." There is nothing radical about the removal of a diseased appendix; neither is the adjective apt when referring to the removal of diseased sinus tissues. In general, deep x-ray therapy of the chronically diseased sinus membranes is not attended with good results. Such tissue is best treated by surgical removal.

As elsewhere in the body, if the proper regime of treatment is adopted in caring for the different types of pathology present in the sinuses, good results may be anticipated. Likewise, failure to cure, and discredit upon the specialty of otolaryngology may be brought about by choosing the wrong type of treatment in the given case. This point is to be stressed, for therein lies the reason for many of the failures in the treatment of sinus disease.

Not much has been said about the effects of climate on sinusitis, and deliberately so. Disease of the sinuses seems to be as prevalent as appendicitis in most climatic zones. It is to be expected, however, that in areas of the temperate zones which experience wide fluctuations of temperature and humidity, more colds and upper respiratory infections are apt to occur. This, in turn, may lead to many cases of sinusitis. Dry, warm areas of the United States, as in the semiarid Southwest, do not experience such sudden and violent temperature changes as are common in the Great Lakes area or on the Eastern seaboard. Since climate is known to have a definite effect on man's resistance to disease and feeling of well-being, it is probable that generalized benefit is gained when a patient with sinusitis experiences improvement on a sojourn to the dry Southwest.

COMPLICATIONS

Sinusitis should be diagnosed and treated with full awareness that certain of its complications can be of fatal outcome. An infected sinus can act as a focus of infection in the production of such diseases as acute rheumatic fever, acute and chronic arthritis, bursitis, tenosynovitis, myositis, chorea, cholecystitis, colitis, acute nad chronic endocarditis, choroiditis, iritis, and scleritis, acute and subacute glomerular nephritis, pyelitis, cystitis, neuritis, myelitis, posterior, ganglionitis, osteomyelitis.

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Some of the more dangerous complications of sinusitis are orbital abscess, retrobulbar neuritis, cavernous sinus thrombosis, brain abscess, meningitis, osteomyelitis of the skull and bronchiectasis. Early recognition of the onset of any of these complications is imperative. In general, an early warning of trouble ahead is given when a patient who has been doing fairly satisfactorily becomes more or less suddenly lethargic and more ill. Some more specific early danger signals are:

1. Orbital abscess.

Edema of the orbit with pain. Rise in temperature. Lids dusky red, soft. No change in vision. If the infection increases and an abscess forms, the lids become more swollen, hard and red. There is more pain, higher fever, painful limitation of motion of the eyeball. The eyeball may be displaced downward or outward. Vision is impaired. There may be phlebitis of the ophthalmic veins with septic temperature and chills.

2. Retrobulbar neuritis.

There is a gradual or sudden loss of visual acuity. The patient may notice a blurring or loss of vision in the eye on the affected side upon arising in the morning. After a few days motion of objects may be again perceived in the peripheral field, but central vision remains impaired. The involvement of the optic nerve may then completely disappear, or it may progress to complete blindness.

3. Cavernous sinus thrombosis.

This complication may follow orbital abscess. The infection passes from the orbit to the cavernous sinus via the ophthalmic veins. Organisms most frequently found in this condition are staphylococcus aureus and hemolytic streptococci. Early in the course there is pain in one orbit and a violent headache. The symptoms usually go to the other orbit within a short time. There is increasing edema of the eyelids, cheek and root of the nose. There is exophthalmus and chemosis, bilateral. Ptosis, strabismus and pupillary changes ensue. Chills and a septic fever of up to 105° occur. There may be vomiting and extreme lethargy, both mental and physical.

4. Brain abscess.

Usually located in the frontal lobe. The first stage may be short, marked by a chill and fever, severe headache, prostration, mental lethargy, nausea and vomiting. This condition may not be recognized for what it is, and may be mistakenly diagnosed as a mild influenza. Following this stage there is a quiescent period, with no febrile reaction. Next, the pulse slows, there is constant headache, various involvements of the extra-ocular muscles occur, there may be pupillary changes with visual impairment. Convulsions or paralyses of various parts of the body appear, there are definite mental changes. Later when the abscess ruptures, there is coma, high fever, tachycardia, stiffening of the neck muscles, various twitchings of muscles, hyperesthesia, flaccid paralysis and delirium.

5. Meningitis.

There is an early rise in temperature to over 104°, and it remains on a high level. There is a severe, constant headache, anorexia, prostration, vomiting, restlessenss and generalized hyperesthesia. Rigidity of neck and spine appears; with increased activity of the deep reflexes. Later may occur projectile vomiting, bradycardia, respiratory aberrations, cranial nerve paralysis, increased blood pressure, flaccid paralysis of the extremities and a gradually increasing coma.

6. Osteomyelitis of the skull.

There may be an area of dull pain over the frontal sinus, low temperature, mild chills, some malaise. A tender swelling appears over the sinus or above it. If an acute diffuse osteomyelitis is developing, it may begin with a sharp headache, high fever, chills, tachycardia and several areas of tender swelling on the skull. Severe toxemia may develop along with signs of a meningitis. Abscesses form in the scalp. It should be stressed that there may be no early signs demonstrable in the roentgenogram.

7. Bronchiectasis.

Chronic maxillary sinusitis in particular, may be an eitological factor in producing this complication. The infected material from the draining sinus may be directly inhaled into the bronchi, or infection may proceed there via the venous and lymphatic channels. The earliest symptom is chronic cough, sometimes made more pronounced by changing position on lying down or arising. The cough may disappear for a time, to reappear following the next attack of upper respiratory infection. Early there is no fever, no other particular sign of illness. In fact, a fair degree of health is usual. Until the disease has progressed past the very early stage, theer is not much sputum, and this is not characteristic. Later the sputum is frothy and may separate into layers on standing. When this occurs, and one layer is composed of green, foul liquid, the disease is rather well developed. Hemoptysis is frequent, and may be one of the early signs.

It is understood that few cases of sinusitis develop any of the above-mentioned complications, yet if the possibiilty of their occurrence be borne in mind much serious illness may be spared, and many lives saved. One who treats sinusitis must, therefore, not lose his awareness of the early danger signals.

COMMENT

Sinusitis is a wide-spread disease, of greatly varying severity. Because it may be a crippling or even fatal affliction, its study and treatment must be based on sound, basic knowledge and comprehension. This knowledge should embrace a thorough understanding of the anatomy, pathology and physiology of the tissues concerned. Significant additions to research concerning the behavior of the sinus tissues in health and in disease have been made in recent years. Diagnosis and treatment of sinusitis, if done in the light of this latter-day information, holds out to those afflicted quite as much hope for a cure as can be connected with diseases of tissues anywhere else in the body. It is hoped that the observations and comments contained herein will prove to be of value in promoting better understanding of the possibilities in treatment of sinus disease today.

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Lahey, Mayo Specialists To Address Fall Meeting

Dr. Carlton R. Souders, internist on the Lahey Clinic staff, Boston, is one of the principal speakers who will be heard at the Southwestern Medical Association meeting in El Paso, October 28, 29 and 30, Dr. Willard Schuessler, general program chairman, has announced. Dr. Souders will speak on two subjects: "Carcinoma of the Lung" and "Bronchietasis." He has had varied experience in diagnosis of chest diseases and is in that department in the Lahey Clinic.

Treatment of the painful hip is one of the subjects that will be discussed by Dr. Ralph K. Ghormley, head of the orthopedics section of Mayo Clinic, during the same meeting. Dr. Ghormley will also speak concerning late results of fractures about joints in the lower extremities.

Names of other outstanding men to appear on the program will be announced at a later date.

All meetings will be held in Hotel Cortez, convention headquarters. Interesting social events for both men and women visitors are being arranged.

All physicians are cordially invited to attend this meeting. Early hotel reservations are suggested.

El Paso Physician Cited

Dr. Charles McChristie Hendricks of El Paso was awarded the American College of Chest Physicians gold medal at the 1947 meeting in Chicago in June. The medal is awarded each year for outstanding work in chest disease. In presenting Dr. Hendricks the medal, Dr. Edward W. Hayes of Monrovia, Calif., chairman of the award committee, said in part:

"Dr. Hendricks has, perhaps more than anyone else, through his efforts brought the specialty of chest diseases to its present high standing in the medical profession. His work on chronic suppurative diseases of the chest and his studies of all known antibiotics have revealed new and important facts which promise to create an entirely new concept of this phase of chest diseases."

Dr. Hendricks was born in Ohio. He came to El Paso in 1908. He aided in organizing the first tuberculosis clinic in El Paso and was one of the first men in the United States to use pneumothorax and was among the very first to use it bilaterally.

He served in the United States Army in World War I, in Europe. Dr. Hendricks hold Charter Membership No. 1 in the American College of Chest Physicians and is a past president of the College.

EENT Consultant Needed

An EENT consultant is wanted for the Federal Correctional Institution at La Tuna, Texas, Dr. Henry J. Schoettner, chief medical officer, has made known. Any doctor interested in the position is asked to telephone Dr. Schoettner at Anthony 50.

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RADIOLOGICAL FINDINGS

In Pain of the Chest Due to Pathological Conditions Other Than Pulmonary and Cardio-Vascular Diseases

J. RICHARD FUCHLOW, M. D., D. A. B. R.
EL PASO, TEXAS

Excluding pulmonary and cardio-vascular diseases, causes of chest pain will include diseases of the thoracic cage in which pain is local and/or referred along nerves, and diseases outside the chest in which referred pain is reflex.

Except in a negative way radiological examination is of little or no value in the neuralgias, peripheral neuritis, the pleurisies, neurofibromatosis, epidemic pleurodynia and herpes zoster.

In considering the bony structure of the thoracic cage common causes of chest pain are the arthritides, anomalies such as kyphoscoliosis, cervical rib, etc., bone disorders including neoplasms, infections, and metabolic disturbances.

Degenerative arthritis itself rarely causes chest pain. However, when marginal spurring of the vertebral bodies produces impingement on nerves, as often demonstrated in the cervical region, it may cause root pains. Infectious or rheumatoid group involves the costo-veterbral joints and interarticular facets. Examination of these joints is frequently disappointing in the early stages of the disease. If the disease is suspected clinically, changes elsewhere in the spine may give supportive evidence. An example commonly encountered is changes in the sacro-iliac joints, in a patient with both chest pain and low back pain, or a history of old low back pain where the condition may be arrested.

Most rheumatologists maintain that symptoms may be present for two or three years before x-ray manifestations are demonstrable. Early changes, as described by deLorimier and others, are regional deossification, thinning of cortexes and slight expansion of joint spaces. Late stages show progression of the early changes with narrowing of joint spaces and subcortical cystic degenration. Needless to say, identifying these changes is not always easy in the joints of the thoracic cage.

Diseases of the spine other than arthritides include tuberculosis, syphilis, brucellosis ,and fungoid disease. This group exhibits somewhat similar roentgenological features and requires differentiation, using clinical and laboratory methods. Metabolic disorders, such as eosinophilic granulomatosis, hyperparathyroidism, osteitis deformans, etc., also fall in this category. Neoplasms, primary and secondary, of spine or ribs, and spinal cord tumors may be added to this group in which the pain is due to direct involvement or referred as root pain. Spinal cord tumors may be suspected in roentgenograms of the dorsal spine showing changes in the pedicles, such as erosion or flattening and increase in the interpedicular spaces. Disc derangements occur in the dorsal spine and require myelographic studies for confirmation.

This brings us to a group of cases in which referred pain is reflex in origin. A common example of this is pain referred to the right shoulder from gall bladder disease. Esophageal defects, diaphragmatic and sub-diaphragmatic pathology, gastric disorders, pathology of spleen, pancreas and even kidneys can produce the same chain of symptoms in addition to the characteristic features of each disease.

The mechanism involved is not entirely clear. Jones, as quoted by White and Geshictor, suggests that the mechanism of referred pain is due to a spread of impulses to adjoining areas in the sensory cortex of the brain. These authors go on to state that visceral pain may give rise to reflex muscle spasm which serves to splint the affected parts and protect them from undue pressure. This muscle spasm may be the source of painful stimuli, which in turn serve to prolong the spasm and thus prolong the pain.

Beginning with conditions involving the diaphragm itself the most common, perhaps, would be the paraoesophageal hiatus hernias. Neoplasm, diverticulum of the oesophagus, and cardio-spasm are others.

Harrison and discussants of his paper, "The Puzzling Aspects of Chest Pain" add diverticulum of the stomach, hypoglycemia and allergy to the list.

Diaphragmatic pleurisy or the primary diaphragmitis of the Hedblom's syndrome causes an arrest of diaphragmatic excursion on the affected side, with or without effusion. Differentiation with sub-diaphragmatic pathology is usually not difficult since the latter ,as a rule, produces elevation of the diaphragm with arrest. Basal exudates may obtain in both conditions. Another point to look for in sub-diaphragmatic abscess is the so-called "plateau sign," that is, complete obliteration of the posterior sulcus as seen in the lateral roentgenogram of the chest.

Tumors of the diaphragm may be suspected in the basic films, but frequently require pneumo-peritoneum studies for complete identification.

Hepato-diaphragmatic interposition of the colon as cause of right chest distress has been described by Starr and by Pendergrass and Kirk. The clue is seen in the flat roentgenogram of the chest as a collection of gas with visible haustral markings under the right diaphragm.

The so-called diaphragmatic flexure as described by Kantor refers to a high splenic flexure seen immediately under the left diaphragm. The incidence of a high splenic flexure is great and as such is of no clinical significance. However, when associated with chest pain, epigastric distress and constipation, it may warrant further consideration, since the imprisoned gas can exert pressure on adjacent organs and the diaphragm. Barium clyster studies are done followed by air contrast enema. Although barium enema itself may reveal a high splenic flexure, we have found that we can obtain additional help by reproducing the pain by air studies. Following the injection of air the patients are asked to get up and walk about. They will almost invariably volunteer a description of the pain that simulates their primary complaint. This does not hold true with patients with normal colons. They may complain of fullness after air injection, but this is usually transitory and in our experience none has complained of pain. Many of these cases were followed after therapy was instituted, directed to the bowel malfunction, and marked improvement was noted in enough cases to warrant

continued search for them. Kantor stresses three points in the management of such cases: reassurance, relaxation and re-education.

Psychogenic chest pain is usually confined to the anterior aspect of the third, fourth or fifth rib on the left side. Pain on pressure over the rib involved is always present, and the same pain can usually be produced by pressure over the corresponding vertebral segment. It occurs more often in females, in our experience the ratio being about five to one. Age incidence is in the second to fourth decade. It is frequently associated with mild digestive disturbances, heartburn and palpitation. Social status is not a factor, but occupation may be a contributary one. Here the pain may be intensified by the fatigue associated with occupations requiring the same position too long, as with typists, seamstresses, etc. Occasionally, a dry hacking cough is present. Most of these people have had repeated and adequate examinations, including electrocardiographic and complete radiographic surveys. Many, as migh be suspected, are cardio-phobiacs. We have recently collected 30 some odd of these cases referred to us for routine chest examinations, some for spine studies. The histories follow along a same general pattern. While it is not within the scope of this paper to discuss the disposition of these cases, Kantor's suggestion of applying the three "R's" more freely is thoughtworthy.

CONCLUSION

Radiological examination of the chest for pain must be approached with care and diligence and a thorough history. It cannot stop with a single roentgenogram, but must be pursued as suggested in this paper.

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Read before a joint meeting of Staff of Ft. Bayard Hospital and Grant County Medical Society, Silver City, N. M., June 19, 1948.

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September 1948

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Journal of
SOUTHWESTERN MEDICAL ASSOCIATION
and
EL PASO COUNTY MEDICAL SOCIETY

VOL. XXVIII SEPTEMBER, 1948 No. 3

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An El Paso Blood Bank

A national blood program is sponsored by the American Red Cross. Importance of quickly available supplies of whole blood is obvious to physicians. Some in this community earnestly desire a blood bank to be established here. This would require some money, and preferably management outside the local medical society. Some local organization can avail itself of this extremely important opportunity to give a life-saving service to the community.

We don't know of an instance in which delay in securing blood for transfusion has cost a life in El Paso. But as medical services in the southwest become more widespread, as they are now doing, readily procurable blood is a MUST.

One suggestion for operation of a blood bank is that it be located at the City-County Hospital, with a delivery service to other hospitals maintained 24 hours per day. This sounds good but there is a maze of detail to be worked out before smooth sailing is in prospect. Above all, someone must be responsible. Without responsibility a blood bank could be more a hazard than an aid.

Military Service

The military service again finds itself in need of competent doctors. It is asking for volunteers and has made its benefits as attractive as possible to entice physicians.

Benefits are much better than they were at any time during the last war, though still inadequate by many standards.

Many men who were students during World War II were allowed to complete their medical education with immunity from military service. These men owe the Army and Navy some of their time in exchange for the privilege of attaining academic training that would otherwise have been interrupted. Supervision and training facilities in service hospitals is better than ever before.

Few doctors who had military service and are now in private practice will volunteer again. They are older than they were when they left their homes to serve their country and will lose all opportunity to establish homes and families if they leave again. To leave a practice that is just getting established and stay away two years or more at this time means that the chance of ever starting over again is permanently lost.

Doctors whom the Army and Navy need should come from those who have not given military service, especially from among those who secured professional education at government expense and with immunity from service they would have been required to give had they been in any other field.

Food Handlers

El Paso food handlers are no longer permitted to go to private physicians for examinations, Dr. L. T. Cox, City-County Health Unit director, announces.

To most doctors this will be good riddance because such examinations constitute a nuisance. Another fact is that in a large number of instances the examinations are entirely too superficial. They should be thorough, especially concerning gastrointestinal tract disease carriers. Expense of such examinations is sometimes considerable. The responsibility is rightly being taken by health authorities.

Dallas Specialist To Speak

Bronchogenic carcinoma will be discussed by Dr. Robert Shaw, professor of thoracic surgery, Southwestern Medical College, Dallas, at a meeting of the El Paso County Medical Society, September 21.

Dr. Shaw is coming to El Paso through the Medical Society Tumor Clinic. He will speak at the tumor clinic at City-County Hospital at noon the same day. Chest cases will be examined and discussed by Dr. Shaw. All physicians are invited to attend.

Program for Southwestern Meeting To Be Printed in October Issue

Elsewhere in this issue is information concerning some of the guest speakers who will address meetings of the Southwestern Medical Association in El Paso, October 28, 29 and 30. The complete program will be published in the issue off the press October 1.

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THE CARDIAC PATIENT AS A SURGICAL RISK

RALPH HOMAN, M. D., F. A. C. P.
EL PASO, TEXAS

Frequently the cardiologist is asked by the surgeon to express his opinion as to surgical risk in a cardiac case. This is not a simple problem because it requires an answer to three questions.

In the first place, the cardiologist must help to determine whether the problem is surgical or cardiac. Secondly, when the problem is obviously surgical, he has to decide whether surgical treatment is warranted. In other words, will the benefit derived from the operation outweigh the damage which might be done by surgery in the cardiac condition? Thirdly, the cardiologist must have, of course, some idea as to the operative mortality in different cardiac disorders.

DIFFERENTIAL DIAGNOSIS

With regard to the first problem, often a definite cardiac condition or crisis is mistaken for an acute abdomen. In children, in cases of rheumatic fever, pericarditis might be accompanied by abdominal pain and tenderness, fever, leukecytosis, and even nausea and vomiting, which can easily be mistaken for acute appendicitis. Acute cardiac onsets such as fibrillation, occlusion, or acute dilatation, may be attended by acute pain and tenderness in the right upper quadrant, with nausea and vomiting, rigidity, slight fever, leukecytosis, and even icterus. The whole picture may closely resemble an acute gall bladder attack. Another circulatory condition which produces symptoms resembling acute surgical abdomen is embolism in abdominal viscera, such as the spleen or kidneys. This is more apt to occur in cardiac patients, especially mitral stenosis, auricular fibrillation, or sub-acute bacterial endocarditis. Treatment certainly is not surgical. It is expectant.

Other acute circulatory emergencies bring up the question of surgical intervention in which the physician's judgment may aid in determining the proper treatment. At present, for example, there is little enthusiasm for surgical removal of emboli to the limbs. Treatment with pavex and other peripheral dilators is more in vogue. The cardiologist in giving his opinion may determine the whole future treatment and well-being of such a patient.

JUDGMENT OF RISK

The second point brought up was to determine whether the life expectancy of the particular patient suffering from heart disease warrants undertaking the surgical procedure contemplated. Is it likely that the patient will live long enough to enjoy the results of the operation and to make the temporary discomfort and risk worthwhile? This involves, of course, an estimation of the prognosis and the type of cardiac disease which is present, often not an easy matter at all. If it is considered that the patient cannot live more than a year or two, whether the operation is performed or not, it would be much better to try to treat the patient expectantly and let him live fairly comfortably during that year or so than to subject him to the hazards of major surgery.

The third point brought out was the abiilty of the cardiologist to determine the gravity of the surgical risk in different types of cardiac pathology. We know that patients with organic heart disease, who are well compensated, in general stand major operations satisfactorily. The risk increases if there is congestive heart failure, and although at times it is necessary and advisable to operate in the presence of congestion, whenever it is possible to delay until a better state of compensation can be established, the operation should be postponed. As stated before, several factors must be considered before a definite decision can be made as to the likelihood of the risk of surgery overcoming any benefit which might be derived therefrom. In order of importance some of these factors are: the type of cardiac involvement, the presence or absence of congestive heart failure, and the probable extent and duration of the operation.

VALVULAR DISEASE

It is better to take up different types of heart disease and discuss briefly their surgical risk, rather than try to cover all as a whole. First, valvular heart disease. Brams states that little or no additional risk is entailed if valvular heart disease is not associated with history or evidence of congestive failure; if the heart is not greatly enlarged; if there is no heart block; or if the ventricular rate is not rapid. Certain exceptions have to be made because certain valvular lesions, especially aortic stenosis or incompetency in cardio-aortic syphilis, sometimes end in sudden death. In general, it may be stated that no difficulties need be expected in patients with valvular heart disease, or almost any form of heart disease, if the patient is able to keep up his ordinary activities without significant distress. In other words, if there is not a recent history or presence of congestive heart failure. However, it must be kept in mind that in all cases of valvular heart disease any manipulation, either dental or other surgery, leaves the patient liable to dislodgement of an infected focus on the valve and consequent sub-acute bacterial endocarditis. Since the advent of penicillin the likelihood of this is greatly decreased. Some dentists routinely give Duracillin before the removal of any teeth, especially if there is any sign of infection about the teeth and gums. I consider this a very good procedure.

CONGESTIVE FAILURE

The presence of congestive failure, or history thereof, constitutes a very grave risk and no operation should be performed unless the need is necessary to save life. It is not at all hard to recognize congestive heart failure from a careful history and careful physical examination. These are much better than instrumental or laboratory aids but they, too, come in for their share in the diagnosis. Dyspnea on exertion, wheezing at night, nocturnal dyspnea, spitting up of blood, or coughing during the night, are suggestive of some pulmonary congestion in patients with heart disease, even if no rales are heard. Enlargement of the liver and peripheral edema, of course, are more advanced stages and are obvious. In preparing these patients for surgery and in treating them post-operaitvely, one must be very careful about giving transfusions or parenteral fluids of any sort. In the patient with congestive heart failure, or history thereof, no operative procedure should be

undertaken unless absolutely necessary and then the patient must be carefully prepared for such operation by digitalization and other measures to decrease the congestion and an attempt should be made to preclude or prevent its recurrence.

SYPHILIS

One of the most serious conditions as a surgical risk is the patient with aortic disease from syphilis. Generally speaking, uncomplicated syphilitic aortitis will withstand operation very well. The risk, however, becomes much greater in the presence of congestive heart failure, aneurysm, or significant involvement of the aortic valve; or narrowing of the coornary aorta. Congestive failure in aortic syphilis is a very serious matter since it is very resistant to treatment, and the average duration of life is generally limited. Only life-saving operations are permissible in such patients. Elective operations may be planned only if the congestive failure responds well to treatment and if the contemplated surgery is very necessary from the standpoint of the patient's health.

CORONARY DISEASE

Coronary heart disease comes next and it may manifest itself as congestive heart failure, angina pectoris, or myocardial infarction. The risk of operation is considerable in the group as a whole since such patients are in the older age group, with diminished recuperative powers and with frequent co-existing degenerative changes in other organs of the body. Quoting from Brams again: these considerations, and the fact that patients with coronary heart disease have a limited life expectancy in general, warrant conservatism in recommending any surgery. It may be stated that surgery may be contemplated only in necessity to save life, or surgery which is imperative for reasons of health. Coronary heart disease, in addition to congestive heart failure, constitutes a very serious risk. The risk is even greater when congestive heart failure is due to coronary disease, for the reasons enumerated above.

Coronary heart disease with angina pectoris also constitutes a very grave risk unless the anginal attacks are mild and infrequent. It is advisable to administer nitroglycerin prior to anesthesia in these cases and to repeat it often during and immediately after the operation. Another thing which must be taken into consideration is the likelihood of these patients to develop myocardial infarction following operation, especially when the blood pressure drops quite low. Such patients, when under an anesthetic will not react to the pain which ordinarily attends such conditions and the attendant shock might easily be construed as post-operative shock. When abrupt dyspnea and cyanosis appear suspicion should be very strong that myocardial infarction has occurred. In the presence of myocardial infarction, surgery should not be attempted unless it is imperative to save life. Brams again states that it is better to defer surgery, if possible, for at least three months after an attack, in order to allow adequate time for proper healing of the infarcted area.

HYPERTENSION

Uncomplicated hypertension is not a strong contraindication to major surgery. Of course, if there are cardiac or renal complications, or involvement of a kidney with nephrosclerosis, only imperative surgery should be attempted. In these cases, the life span is relatively short and the danger incident to such surgery will usually outweigh any good or comfort which could be derived from the operation. The extent of kidney involvement can easily be determined by the blood urea and if this reaches more than 30 or 35 mg. per 100 c.c. of blood and considerable albumin is present in the urine, operative procedures are contra-indicated. Cerebral complications when they are transient or of brief duration should not interfere with emergency operations. However, it is better to wait until the condition has cleared up entirely before an operation is attempted.

(To be concluded)

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SMEAR STAINS FOR EARLY DETECTION OF CANCER

DRS. C. H. MASON, M. S. HART AND R. F. BOVERIE
EL PASO, TEXAS

For the past several months there has been an increasing number of papers in the literature, and articles in lay journals, pertaining to value of the early diagnosis of cancer by means of the Pananicolaou smear technique. Some investigators have accepted this method of early diagnosis of cancer enthusiastically, while others are skeptical, and still others are unwilling to recognize the procedure and have criticized it severely.

To clarify some of the misunderstanding and disagreement concerning the Pananicolaou method of cytological diagnosis of cancer, we feel certain factors should be presented so that doctors may more fully appreciate the advantages and disadvantages of the smear technique as employed in the early diagnosis of cancer.

Diagnosis of cancer by examniation of cellular exudate or paracentetic fluid is not new. Pananicolaou recognized cancer cells in vaginal smears as early as 1928[1] and examinations of excretions, exudates and body fluids has been a common procedure in many laboratories for a number of years.[2,3,4,5,6,7,8,9] By definition, a cancer is an abnormal growth of new cells serving no useful function and varying from normal cells in size, shape and staining qualities. In addition, cancer cells are invasive and tend to metastasize. The pathologist recognizes these cancer cells by their bizarre and abnormal growth pattern, lack of uniformity, altered staining qualities, and by their infiltrative or invasive properties. For many years pathologists have agreed that "invasion" was the best criteria for definite diagnosis of cancer. Cancer, however, is not a sudden accident and before there is actual invasion cancer cells undergo definite and distinct morphological changes that have the "earmarks" of malignant cells,[10] hence, the terms "precancer," "pre-invasive cancer," or "cancer-in-situ." The surface biopsy or smear technique in the early diagnosis of cancer is based upon abnormal cell morphology, the nuclear-cytoplasmic ratio and the altered staining qualities of the cell. Growth pattern and invasion, of course, are not evident when one is dealing with single cells.

Contrary to a common misbelief, the Pananicolaou stain is not specific for cancer cells. It is simply a trichrome stain that preserves the translucency of the smear, affording good nuclear detail. Most investigators agree that the Pananicolaou smear technique is of definite value as an aid in the detection of early cancer[11]. They also are quick to point out that the procedure has many limitations and most pathologists, being natural-born skeptics, have maintained a conservative attitude.[12] Smear technique has been thoroughly tried in many large clinics but reports of results are still conflicting. Gates and Warren[13] in their review of a very large series of vaginal smears for diagnosis of carcinoma of the uterus, conclude that the method may have its greatest value in furthering interest in histologic study of very early stages of malignancy and premalignant conditions. Certainly, diagnosis of pre-invasive cancer is now being made in biopsy material much more often than in the past. There is also good evidence to support the fact that carcinoma-in-situ or pre-invasive cancer may exist for many years before there is actual break-through and invasion or metastasis.[14] Most authors agree that use of Pananicolaou stain, or some modification of the process, is the best method we have of increasing our chance of diagnosing cancer in a stage that is curable.[15]

In spite of its definite value the fact remains that the limitations of this diagnostic procedure are many, and also, if not properly utilized and evaluated, may be entirely misleading and harmful.[16]

We have employed Pananicolaou stain for ten months, adhering strictly to the technique outlined by the author,[17] and feel that it offers definite aid in the early detection of cancer. Our series of cases (186) is too small to be of statistical value, but certain individual cases serve to emphasize the merits and limitations of the procedure, and representative photomicrographs are presented.

CONCLUSIONS

The Papanicolaou method for early detection of cancer has definite value and, if utilized correctly, offers the best means of recognizing neoplasia at a stage wherein the new growth may be detected before the appearance of physical symptoms. Certain limitations of the method are evident, and biopsy of tissue should be made to confirm the diagnosis whenever possible. The smear technique has proven extremely valuable in detection of cancer cells in those cases wherein biopsy is difficult, or not feasible, e. g., pleural metastasis, bronchogenic tumors, bladder or prostatic cancer, or gastric tumors.[20]

There is some question as to whether smear technique should be utilized as a routine office or clinic procedure for the early detection of uterine cancer.[18] Most investigators agree that the smear technique is the best method we have at this time for early detection of malignancy but point out that accuracy of the method is dependent upon rigid technique. Meigs[19] reports that in 2749 cases the percentage of accuracy of the vaginal smear method for diagnosis of uterine cancer was 97.8 per cent. We doubt that the percentage of accuracy could be maintained unless very rigid control was upheld, and consequently missed diagnoses would yield a false sense of security to both doctor and patient. Other investigators have

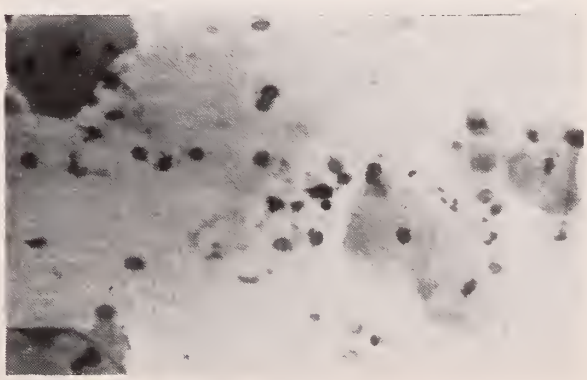


Fig. 1—Normal superficial squamous cells with pyknotic nuclei (x 430)

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emphasized the fact that in a cytological diagnosis of tumor, wherein the criteria for malignancy is nuclear-cytoplasmic ratio and altered staining qualities, there are bound to be mistakes.[19] Wiles and Hellwig have pointed out that irradiated tissue fibroblasts and epithelial cells often acquire all the morphological features of malignant cells and yet remain benign. Others have stressed this fact and in our cases in which we have utilized surface biopsy for detection of recurrent cancer in post-irradiated cases we have found that the method is of no value until after one year or more following the radiation therapy. Atypical malignant-like cells may be seen also in cases of active cervicitis or endometrial polyps. We believe, however, that the Pananicolaou smear should never be used in any case wherein there are physical findings or symptoms the least suggestive of cancer in which a tissue biopsy is possible.

In spite of certain disadvantages and limitations we believe that the Pananicolaou smear offers a practical method for detection of early cancer, and is of definite value in substantiating a diagnosis wherever cells for study may be obtained but tissue diagnosis is not feasible.

In view of the large number of cancer cases that reach the surgeon in inoperable stages, we believe that any procedure that offers hope for earlier diagnosis should be given a long and fair trial before it is declared without value. Further investigation with careful follow-up studies will increase our knowledge of this interesting phase of the cancer problem. It would probably be best neither to condemn nor condone until we have more conclusive evidence.

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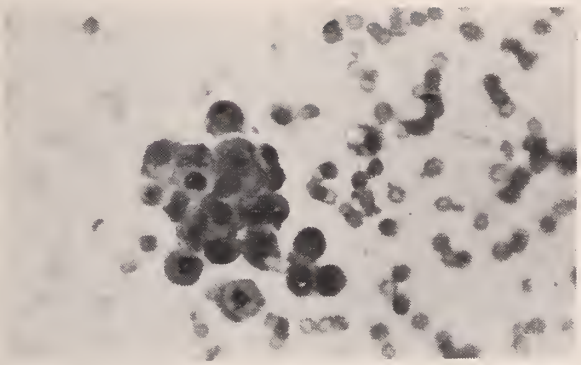


Fig. II—Normal non-keratinized squamous cells of the basal type. Many red cells. (x 430)

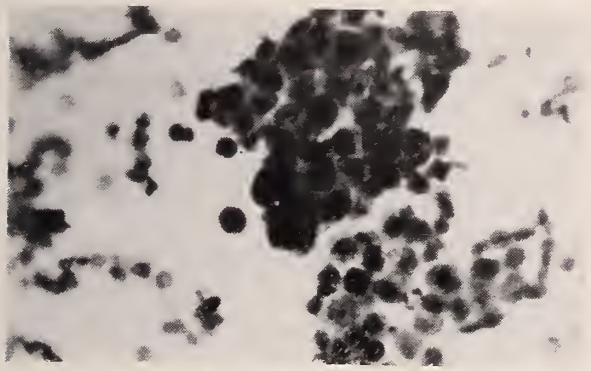


Fig. III—Malignant squamous cells. Large hyperchromic nuclei. Scanty cytoplasm. Mytoses. Biopsy: Epidermoid Carcinoma Gr. III. (x 430)

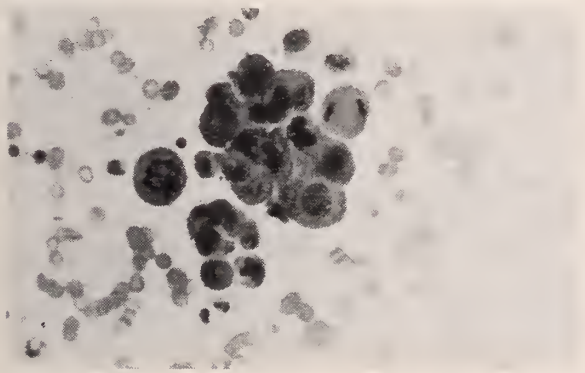


Fig. IV—Cluster of malignant cells from peritoneal fluid. Note active mytoses, large hyperchromic nuclei. (x 430)

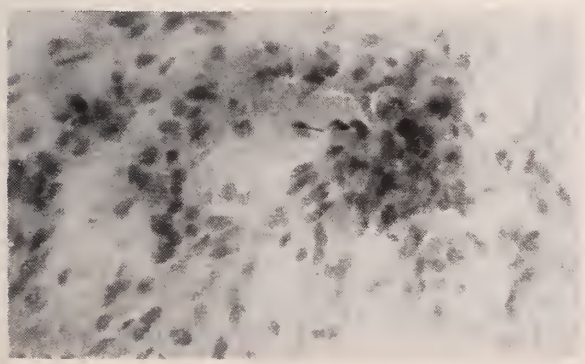


Fig. V—Papanicolaou smear from bronchial washings showing malignant cells growing in syncytium. Diagnosis: Bronchiogenic Carcinoma. (x 430)

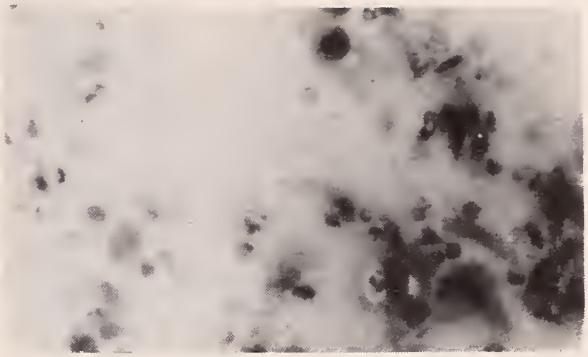


Fig. VI—Papanicolaou smear of vaginal scrapings in case of Carcinoma of cervix 16 months after X-ray and radium therapy. Diagnosis: Recurrent Carcinoma. Note bizarre, elongated, hyperchromic nuclei with altered nuclear-cytoplasmic ratio. (x 430)

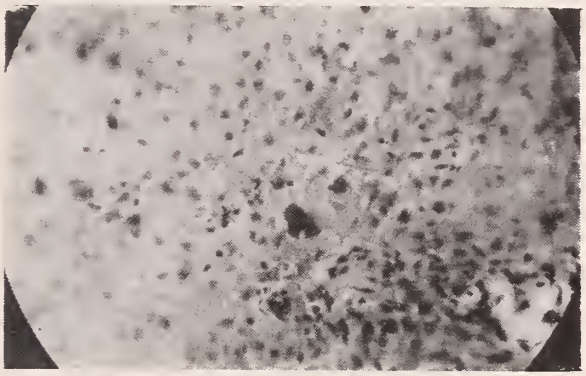


Fig. VII—Cervical biopsy showing atypical epithelial hyperplasia with hyperchromic and irregular basal cells. Cells show keratinization and some polarity. (x 240)

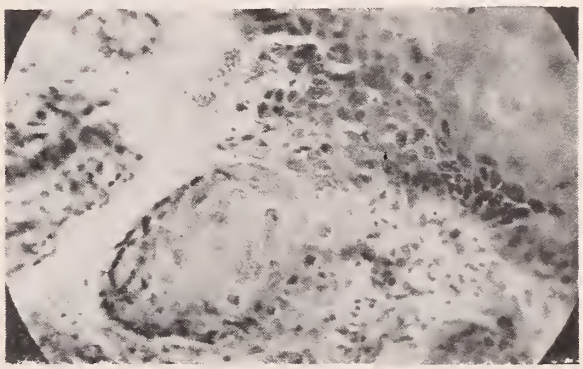


Fig. VIII—Cervical biopsy showing irregularity of the basal layer but no definite evidence of malignancy. (x 240)

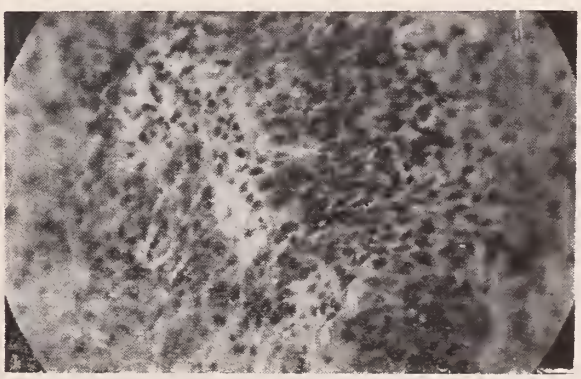


Fig. IX—Cervical biopsy: daignosis, Carcinoma-in-situ. Hyperchromic cells with spindle-shaped nuclei, no keratinization. This is the lesion that shows no physical signs of neoplasia but may be detected by the smear stain. (x 240)

Fall Meeting To Include Auxiliary Social Program

A complete program of social activity is being planned for wives of physicians attending the Southwestern Medical Association Meeting, October 28-30, in El Paso, according to Mrs. Delphin von Briesen, chairman of the entertainment committee of the Women's Auxiliary.

The program includes a luncheon at the Turner Memorial Home, an afternoon of sightseeing in both El Paso and Juarez, and a style show sponsored by the White House. Place and time of the style show will be announced later. The auxiliary will also participate in the informal dinner for both physicians and wives, Thursday evening, October 28, as well as the cocktail party and formal banquet to be sponsored by the El Paso County Medical Society on Friday evening at Hotel Cortez.

The concluding event on the social program will be the Hardin-Simmons—Texas College of Mines football game, Saturday evening, October 30.

The Women's Auxiliary is headed by Mrs. Harry Varner.

Cancer Conference

The annual southwest regional cancer conference will be held on October 12, at Hotel Blackstone, Ft. Worth. The meeting is sponsored by the Tarrant County Medical Society and the American Cancer Society.

On the program are: Dr. J. Barrett Brown, surgeon, of St. Louis; Dr. Robert A. Moore, professor of pathology, Washington University, St. Louis; Dr. Charles Huggins, urologist, Chicago University; Dr. A. R. Curreri, surgeon, Wisconsin University; Dr. Morris K. Barrett, biologist, National Cancer Institute, Bethesda, Md.

Physicians desiring to attend are advised to write the Hotel Committee, 209 Medical Arts Building, Ft. Worth 2, Texas. There is no registration fee.

Tuberculosis Group To Meet

The Texas Tuberculosis Association will hold its thirty-eighth annual meeting in San Angelo, September 24 and 25. Headquarters are in the St. Angelus Hotel. A barbecue on September 23, with Dr. J. B. McKnight as host, precedes the opening of the meeting.

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Outstanding Speakers To Address October Meeting

Dr. Robert M. Zollinger, professor and chairman of the department of surgery, Ohio State University, is one of the outstanding speakers who will address members of the Southwestern Medical Association meeting in El Paso, October 28, 29, 30.

Among other widely known speakers are: Dr. E. D. Plass, professor of obstetrics and gynecology, Iowa State University; Dr. R. J. Whiteacre, director of anesthesia, Huron Reed Hospital, Cleveland, Ohio; Dr. Peter C. Kronfeld, associate professor of ophthalmology, Northwestern University; Dr. Ralph A. Reis, associate professor of obstetrics and gynecology, Northwestern University; Dr. C. E. Van Alyea, associate professor of medicine and otolaryngology, University of Illinois; Dr. Ralph K. Ghormley, orthopedic surgeon, Mayo Clinic; and Dr. Carlton B. Souders, internal medicine, Lahey Clinic.

A feature of the meeting will be "Information Please" luncheons, with the visiting speakers answering questions from those attending.

Registration fee is again $6.00. All southwestern physicians are cordially welcome.

Certified Milk

El Paso was commended for its certified milk dairy, a part of Price's Creameries, at the recent convention of the Medical Milk Association in Waukesha, Wis.

El Paso has the only certified milk dairy between Los Angeles and San Antonio and is one of the smallest cities in the nation to support a dairy of its kind, according to C. W. Bonynge, M. D., of the American Association of Medical Milk Commissions.

Certified milk is produced under rigid standards set up by the American Medical Association. It must be completely fresh at time of delivery and must contain fewer than 500 bacteria per cubic milliliter as opposed to a limit of 30,000 bacteria per milliliter for Grade A.

Members of the El Paso Certified Milk Commission are Dr. L. T. Cox, Dr. I. M. Epstein, and Dr. J. Travis Bennett. Dr. Will P. Rogers is inspecting physician; and Dr. D. L. Cady is veterinarian.

New Examinations for Food Handlers

Dr. L. T. Cox, director of El Paso City-County Health Unit, has announced that food handlers no longer are permitted to go to private physicians for examinations. They are to visit the City Health department instead.

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OFFICIAL JOURNAL OF THE SOUTHWESTERN MEDICAL ASSOCIATION AND THE EL PASO COUNTY MEDICAL SOCIETY

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October 1948

Convention Issue

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Southwestern Medicine
Journal of
SOUTHWESTERN MEDICAL ASSOCIATION
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EL PASO COUNTY MEDICAL SOCIETY

VOL. XXVIII OCTOBER, 1948 No. 4

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Southwest National Bank Building, 310 North Stanton
Published at 223 South Oregon, El Paso, Texas

Five dollars per year 50c single copy

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Entertainment

Much entertainment is in store for visitors to the Southwestern Medical Association meeting in El Paso next month.

A cocktail party will be given by members of the El Paso County Medical Society on October 29. This will precede the annual dinner.

An early evening party for both ladies and doctors will be given on October 28. Its location will be announced.

On the final day of the meeting, Saturday, October 30, a golf tournament for members will be held at the El Paso Country Club.

On Saturday evening a football game between Hardin-Simmons University and Texas College of Mines will be played in Mines Stadium. Arrangements have been made for visitors to secure a block of excellent seats for this game, which is homecoming for Mines.

Ladies entertainment is listed elsewhere.

Ladies' Program

A style show, luncheon in Juarez, and a tea are among the activities scheduled for entertainment of visiting ladies during the Southwestern Medical Association meeting, Mrs. Delphin von Briesen, social chairman, announced.

A tea will be given at the home of Dr. and Mrs. Grady Causey on the afternoon of Thursday, October 28.

The White House will present a style show on October 29. This will be a luncheon meeting. The place and exact time will be announced later.

Luncheon at the Tivoli cafe in Juarez will be held on the final day of the meeting, October 29.

Luncheon Chairmen

Dr. Leslie M. Smith, president of Southwestern Medical Association, has announced names of physicians who will preside at the clinical discussion luncheons to be held during the association's October meeting.

They are:

Thursday, October 28: Dr. Joseph Bank, Phoenix, Medical; Dr. Felix P. Miller, El Paso, Surgical.

Friday, October 29: Dr. A. C. Shuler, Carlsbad, New Mexico, Medical; Dr. R. E. Watts, Silver City, New Mexico, Surgical.

Program

Many of the subjects which will be handled by the various guest speakers at the Southwestern Medical Association meeting in El Paso, October 28, 29, and 30, have been announced by Dr. Willard Schuessler, chairman of arrangements, and Dr. J. Richard Fuchlow, program chairman.

They are presented in brief here. Programs containing details as to time and place of each meeting will be available at the meeting.

The program in brief:

Dr. E. D. Plass, professor of obstetrics and gynecology, State University of Iowa Hospitals, Iowa City, Iowa:

1. Use of Chemotherapeutic and Antibiotic Agents in Obstetric Practice.
2. Use of Blood in Obstetrical Complications.

Dr. Ralph Ries, Chicago, Illinois:

1. Office Gynecology.
2. Present Status of Gynecology and Endocrinology.

Dr. Carlton Souders, internist, Lahey Clinic, Boston, Mass.:

1. Bronchiectasis.
2. Bronchogenic Carcinoma.

Dr. Robert M. Zollinger, professor and chairman of the department of surgery, Ohio State University, Columbus, Ohio:

1. Indications for Surgery in Biliary Disease.
2. Current Trends in the Surgical Treatment of Lesions of the Stomach and Duodenum.

Dr. Ralph K. Ghormley, orthopedic section, Mayo Clinic, Rochester, Minn.:

1. Prevention and Treatment of Painful Hips in Adults.
2. Late Effects of Fractures About the Joints of the Lower Extremity.

Dr. R. J. Whiteacre, anesthetist, Huron Road Hospital, Cleveland, Ohio:

1. Endotracheal Anesthesia.
2. Problems During Anesthesia.

Dr. O. E. Van Alyea, otolaryngologist, Chicago, Illinois:

1. Otolaryngology in General Practice.

For EENT Group:

1. Treatment of Acute Nasal and Sinus Infections.
2. Middle Meatal Approach to the Maxillary Sinus.
3. Management of Chronic Sinusitis.
4. Sphenoiditis.

Dr. Peter C. Kronfeld, opthalmologist, University of Illinois, Chicago, Illinois:

1. First Aid in Eye Injuries.

For EENT Group:

1. The Differential Diagnosis of Acute Glaucomas.
2. My Pet Surgical Instruments.
3. Selected Cases of Retinal Detachment.
4. Techniques of Iris Inclusion Operations.

DR. JOSEPH M. GREER TO HEAD SOUTHWESTERN ASSOCIATION

WELL KNOWN PHOENIX SURGEON TO SUCCEED DR. LESLIE M. SMITH OF EL PASO IN INSTALLATION CEREMONIES SCHEDULED FOR OCTOBER MEETING

One of the highlights of the annual meeting of the Southwestern Medical Association, to be held in El Paso, October 28, 29, and 30, will be the installation of Dr. Joseph Madison Greer, well known southwestern and Phoenix, Arizona, surgeon as president of the group for the ensuing year. Dr. Greer will succeed Dr. Leslie M. Smith, El Paso dermatologist.

Dr. Greer has been a resident of the southwest for nearly 35 years. He came to this country in 1915, as surgeon for a large hydro-electric installation, and except for military service in two world wars, has been a continuous resident of Arizona since that time.

Like many other southwesterners, Dr. Greer hails originally from another part of the country, in this case, St. Louis, Mo. He graduated in medicine from Washington University in that city and, in addition, holds BS, PhG, and PhC degrees. After an internship and residency he became surgeon for the Electric Bond and Share Company of New York City.

Dr. Greer's military service includes both world wars. During World War I he was sent to the Army Medical School in Washington, D. C., and, after graduation, saw army service until 1920, with the rank of major. In that year he left the army and returned to Arizona. In World War II Dr. Greer held the rank of Captain in the Navy. He served in the South Pacific theater and was also chief of surgery at the Mare Island Naval Hospital. For his work in the latter position he received a citation from the Secretary of the Navy for meritorious service. In 1946 he returned to his private practice.

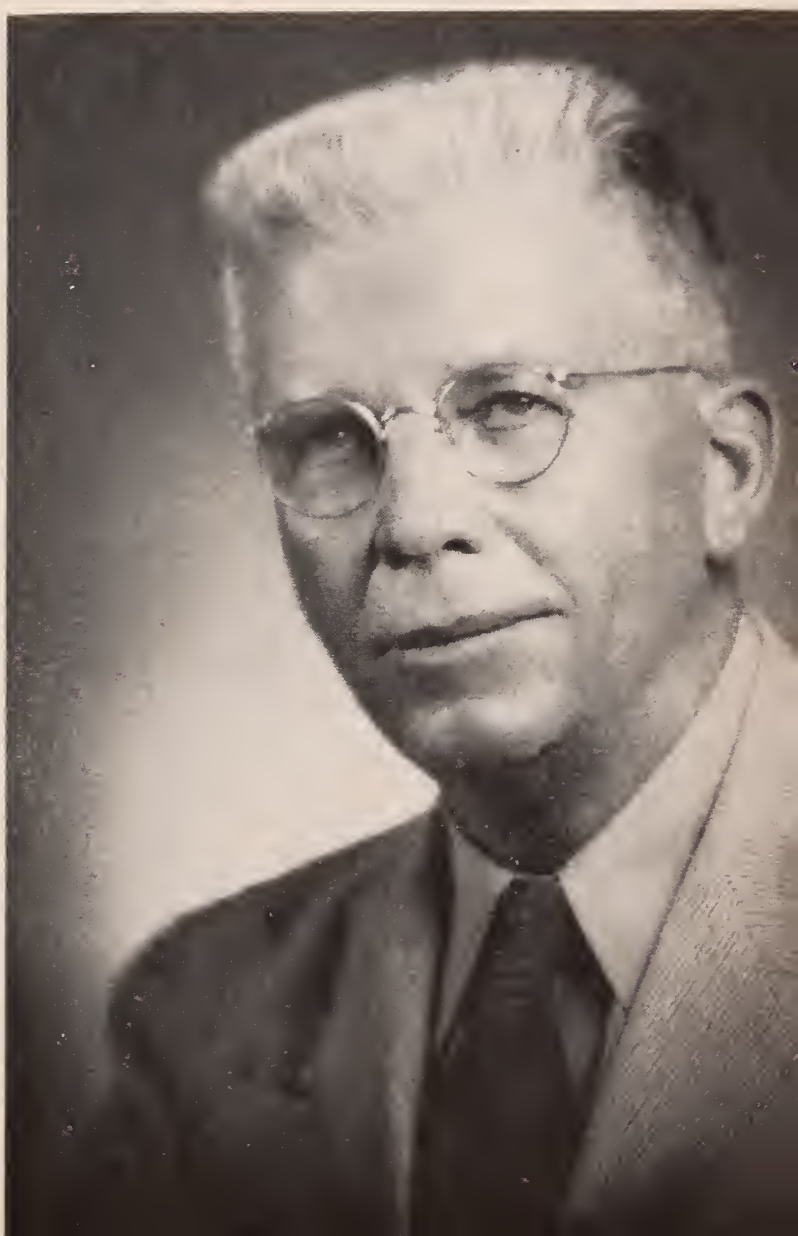
Among the institutions at which Dr. Greer has taken post-graduate work are the Mayo Clinic, the University of California, the New York Post Graduate School, and Columbia University. He is also secretary of the Board of Regents of Arizona University at Tucson.

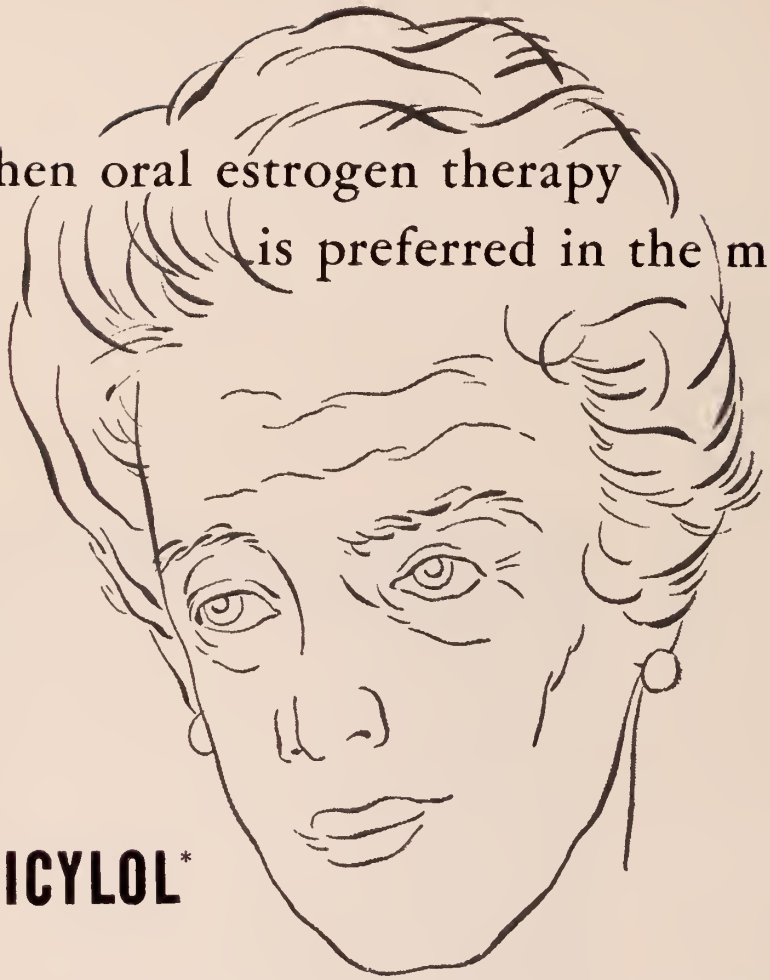
Hospital staffs of which Dr. Greer is a member include St. Joseph's Good Samaritan, St. Monica's and S. S. District Hospital, all of Phoenix. He is also a member of the consulting staffs of Saga Memorial Hospital, Ganada, Arizona; Los Angeles Orthopedic Hospital, Los Angeles, California; and the U. S. Veterans' Hospital at Whipple, Arizona.

Dr. Greer is also a member of the Maricopa County Medical Society, Arizona State Medical Association. He is a Fellow of the American Medical Association, the American College of Surgeons, and the International College of Surgeons. He is a diplomat of the American Board of Surgery. He is a Rotarian.

Dr. Greer limits his practice to general surgery, with special attention to orthopedic surgery.

The president elect of the Southwestern Medical Association is one of the original members of the old Southwest Medical and Surgical Association. He has been an active and unceasing supporter of the organization since its inception. As a surgeon Dr. Greer is well known throughout the Southwest. He is particularly reputed for his interest and work in orthopedic surgery. That the Southwestern Medical Association has seen fit to honor Dr. Greer by installing him as president is entirely in keeping with his high reputation as a surgeon as well as his untiring efforts in behalf of the medical profession as a whole.





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TREATMENT OF THE POSTPHLEBITIC SYNDROME BY INTERRUPTION OF THE LUMBAR SYMPATHETIC NERVES

PRELIMINARY REPORT

R. C. DERBYSHIRE, M. D., F. A. C. S.
ARTESIA, NEW MEXICO

The postphlebitic syndrome may be defined as a symptom complex characterized by pain, swelling, and congestion of the lower extremity which results from one or more attacks of acute thrombophlebitis. It varies in severity from mild dependent edema of the foot and ankle to severe pain, brawny swelling and recurrent ulceration with marked disability.

Undoubtedly the greatest recent advance in the treatment of acute thrombophlebitis was the introduction of novocaine block of the lumbar sympathetic ganglia by Leriche[1] in 1934. This procedure has been popularized and standardized in this country largely through the efforts of Ochsner. But in spite of the fact that this has given marked improvement in the results of treatment of acute thrombophlebitis, we are still all too frqeuently confronted by distressing and even crippling sequelae of this disease.

For many years surgeons were all too inclined to adopt a defeatist attitude in regard to the treatment of the postphlebitic syndrome and practically no progress was made. This is borne out by the fact that as recently as 1937 McNealy,[2] in discussing the subject, recommended treatment of the swelling merely by the application of elastic bandages and Unna's paste boots. Although these methods are still most valuable, it is obvious that further treatment is necessary in many cases and that a more aggressive attitude should be adopted.

In the past few years new interest has been aroused in the problem of the postphlebitic leg and surgeons have devised several new methods of dealing with it. But the multiplicity of methods of treatment is proof of the fact that the problem has not yet been solved. In general, modern concepts of treatment have two objects in view: either to increase the blood supply to the extremity or to relieve vasospasm which, incidentally, accomplishes the same purpose.

According to Homans[3] the late stage toward which all thrombotic processes progress is an obstructive inflammatory thrombosis. In analyzing the late results of thrombophlebitis he places his cases in the following five groups:

1. Those with slight edema after standing which disappears after rest.
2. Those with pigmentation, induration and frequently ulceration.
3. Those with a definite pain complex and vasomotor changes in the skin.
4. Those with marked congestion.
5. Those with recurrent thrombosis in the deep or superficial veins.

Although there is frequently overlapping of these types, it is a good working classification. It is obvious that the first type need cause little concern. But almost all of the patients in the last four classes eventually suffer disability of varying degree. This

TABLE I—SUMMARY OF CASES TREATED

Case No.	Sex	Age	Duration of Symptoms	Dates of Hospitalization	Treatment	Result
1.	F	51	30 years	10-29-46 to 11-26-46	Sympathetic block followed by sympathectomy.	Excellent.
2.	M	79	10 years	10-3-47 to 10-12-47	Sympathetic blocks (2). Saphenous ligation. Wet dressings.	Fair.
3.	F	37	5 years	10-9-47 to 10-13-47	Sympathetic blocks (2). Tyrothricin packs, elastoplast bandage.	Good.
4.	F	39	12 years	4-13-47 to 4-16-47	Sympathetic blocks (2).	Excellent relief from pain. Developed mild recurrent phlebitis 2 months later which did not require hospitalization.
5.	F	70	15 years	2-9-48 to 2-16-48	Sympathetic block. Saphenous vein ligation. Wet dressings.	Poor.
6.	F	27	10 years	4-5-48 to 4-8-48	Sympathetic block.	Excellent.
7.	F	39	12 years	12-28-47 to 1-16-48	Sympathetic block followed by sympathectomy. Tyrothricin packs and Unna's paste boots.	Excellent.
8.	M	74	20 years	12-30-47 to 1-21-48	Sympathetic blocks (2). Wet dressings. Unna's paste boots.	Poor.
9.	F	55	15 years	11-4-47 to 11-11-47	Sympathetic blocks (2).	Excellent.
10.	M	54	15 years	5-10-48 to 5-17-48	Sympathetic blocks (2). Saphenous ligation. Tyrothricin. Unna's paste boots.	Good.
11.	F	32	2 years	3-17-47 to 3-17-47	Sympathetic block.	Good.
12.	F	68	20 years	7-30-48 to 8-1-48	Sympathetic block.	Excellent.

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disability is usually due mainly to pain, whether from recurrent attacks of thrombophlebitis, from ulceration, or from congestion and venous insufficiency. In addition there are those patients, as pointed out by Homans, who develop a definite and persistent paint complex early in the course of acute thrombophlebitis. Frequently the pain is out of proportion to the clinical findings.

The pain in the postphlebitic extremity is usually due to two factors. First, the congestion due to lymph stasis and interference with the venous return from the extremity. Secondly, to a focus of irritation in the thrombosed vein which causes persistent vasospasm which adds to the swelling and congestion because of increased filtration pressure. The last factor has been repeatedly pointed out by Ochsner.[1]

In 1939 Sokolov and Myers[2] reported excellent results from the use of acetyl-beta-methyl choline chloride iontophoresis in the treatment of the postphlebitic syndrome. The rationale of this treatment is that it increases the blood supply because the chemical causes marked vasodilatation. But the method has not become popular and there are no reports of cases which have been followed over a long period of time.

Paine and Levitt[4] report almost equally good results from the use of intermittent venous occlusion. However, this method is inconvenient and time consuming. Furthermore no reports of late results are available.

Buxton and his associates[7, 8] report good results in a certain number of cases following ligation of the femoral vein. But in seven out of twenty-one of their patients persistent or increased swelling of the leg followed ligation. Homans[3] recommends femoral ligation only in certain selected cases. (Type 4 of his classification.)

The last important innovation in the treatment of the postphlebitic syndrome is by interruption of the lumbar sympathetic nerves. Little has been found in the literature in regard to this and there is a marked difference of opinion in respect to its effectiveness. The rationale of this method of treatment is the assumption that the symptoms are due to a focus of irritation in the thrombosed vein causing vasospasm with its well known sequelae of pain, swelling and, indirectly, lymph stasis. That vasospasm may be operative over a long period of time is substantiated by the fact that pain is so frequently relieved in cases of long standing by interruption of the lumbar sympathetics by any one of several methods. Ochsner,[5] in discussing the treatment of acute thrombophlebitis by interruption of the sympathetic nerves, makes the following statement: "Equally important, though less dramatic, are the results obtained in long-standing cases of postphlebitic edema. Whereas it may not seem likely that vasospasm is a factor in these cases, we have been able to demonstrate repeatedly that such is the case. One must assume, therefore, that the thrombophlebitic segment acts as an irritative lesion and initiates vasoconstrictor impulses that are carried over the sympathetic nervous system."

Evans[10] reports good results in four patients following the injection of metycaine into the lumbar sympathetic nerves. Homans recommends sympathetic block in certain selected cases; namely, those in type 3 of his classification in which there is a definite pain complex. He states that these patients are almost invariably relieved by the procedure and advocates lumbar sympathectomy in some cases.

Other authors, on the other hand, notably Allen and Barker[11] state definitely that interruption of the lumbar sympathetic nerves is of no benefit whatever in the treatment of the postphlebitic syndrome.

The following cases are presented because it is thought that insufficient emphasis has been placed on interruption of the lumbar sympathetic nerves in the treatment of the postphlebitic syndrome and because no formal report of this method has been found in the literature.

METHODS AND MATERIAL

The present report is based upon twelve cases of postphlebitic syndrome treated by interruption of the lumbar sympathetic nerves between October 1946 and April 1948. Their records are summarized in Table I. This does not represent all of the cases seen during this period, as many patients who were examined were not considered to have sufficient difficulty to warrant treatment by this method and were treated by so-called conservative methods; by rest, elevation and application of elastic stockings. Two others with severe symptoms refused hospitalization. All of the patients were followed personally for from one to twenty-two months. The patients were entirely unselected except for the fact that only those whose symptoms were partially or totally incapacitating were accepted.

It will be seen from Table I that the series consisted of nine females and three males ranging in age from 27 to 79 years. The duration of the symptoms was from two to thirty years. Eight of the patients attributed their difficulties to an acute attack of thrombophlebitis following an operation or parturition. The remainder had had no trauma and fell into the class of so-called "medical thrombophlebitis." The period of hospitalization varied from three to twenty-eight days.

TABLE II—CAUSE OF DISABILITY AND RESULTS

Case No.	Cause of Disability	Results
1.	Recurrent thrombophlebitis and ulceration.	Excellent
2.	Recurrent ulceration.	Good
3.	Recurrent ulceration.	Good
4.	Recurrent thrombophlebitis.	Good
5.	Eczema and ulceration	Poor
6.	Recurrent thrombophlebitis.	Excellent
7.	Recurrent thrombophlebitis, ulceration.	Excellent
8.	Eczema. ulceration.	Poor
9.	Recurrent thrombophlebitis.	Excellent
10.	Recurrent ulceration	Good
11.	Recurrent thrombophlebitis.	Excellent
12.	Recurrent thrombophlebitis.	Excellent

The routine of treatment was as follows. The patients were all hospitalized for varying periods depending upon the severity of their symptoms and their response to treatment. They were admitted to the hospital in the afternoon and the following morning lumbar sympathetic block was carried out, 5 cc of one per cent novocaine being injected into the region of the first, second, third and fourth lumbar sympathetic ganglia. Following this the patients were observed carefully for objective and subjective signs of improvement and if pain had been a prominent symptom they were required to walk under observation. Unfortunately it was impossible to obtain skin temperature readings as the proper apparatus was not available. But the extremities were observed carefully for increase in temperature on palpation in

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comparison with the opposite members and the presence or absence of sweating. In every instance the leg on the side which was injected became warmer than its fellow and there was absence of sweating, confirming the fact that the sympathetic nerves had been properly blocked. Re-enforcing blocks were carried out at intervals of from twenty-four to forty-eight hours and if no improvement was noted after two blocks the procedure was abandoned. In two patients (cases 1 and 7) lumbar sympathectomy was subsequently carried out. These patients were selected for this procedure because of the severity and long duration of their disability and because of their gratifying response to lumbar sympathetic blocks. A third patient (case 9) had requested sympathectomy but experienced such dramatic and lasting relief following block that it was decided to hold this procedure in reserve.

In a few of the cases interruption of the sympathetic nerves was the only procedure carried out. But in the majority supplementary measures had to be employed to deal with complications. In three cases saphenous vein ligations were done for large varicosities. Ulcers were treated by wet dressings of tyrothricin followed by the application of Unna's paste boots or elastoplast bandages. The severe cases of dermatitis were treated by wet dressings of Burro's solution.

In Table II an attempt has been made to classify the cases according to their presenting symptoms, that is, according to the most conspicuous cause of disability. The classification of Homans has been followed loosely as only very few pure types were encountered. The results were classed as excellent if the patient experienced complete relief from his symptoms and was able to return to his former occupation with minimal residual handicap. The results were considered good if the patient had relief from pain even if only temporary. The results were classed as fair if there was any improvement at all, and poor if there was no change. Thus it is seen that in fifty per cent of the patients the results were excellent; in twenty-five per cent they were good; in the remaining twenty-five per cent the results were either fair or poor.

It will also be noted that the best results were obtained in those patients whose main cause of disability was recurrent thrombophlebitis. It is also interesting to observe that interruption of the lumbar sympathetics was of great benefit to chronic ulcers. Besides affording prompt relief from pain, it was thought to accelerate healing. The poorest results were obtained in those patients suffering from extensive stasis dermatitis.

The following abstracts of case histories will serve to illustrate some of the points mentioned:

Case 1. Mrs. C. H., a 51-year-old housewife, was admitted to the hospital October 26, 1946, with the following history. For the past thirty years she had had painful swelling of the left lower extremity. She had had recurrent attacks of acute thrombophlebitis following each of her five pregnancies. Two years before admission she had another attack of thrombophlebitis following a hemorrhoidectomy. Shortly after this varicose veins were injected elsewhere following which her leg became much worse and she developed recurrent ulcers. For two years before admission she had had severe pain in the calf on walking and was unable to walk more than a block without resting. For six weeks she had been confined to

bed because of severe pain and swelling in the leg and thigh. Physical examination revealed the following positive findings. There was moderate swelling and marked induration of the entire left lower extremity. The patient stated that the swelling had been much more pronounced before she began to rest in bed. There was marked tenderness, redness and induration over the course of the greater saphenous vein in the leg and in the upper portion of the thigh. No pulsations were palpable in the dorsalis pedis or posterior tibial arteries on the left. Pulsations were normal in the popliteal and femoral arteries on the left and in all of the arteries of the right lower extremity.

Course: On October 30, 1946, caudal anesthesia was carried out for three and a half hours. Following this the patient was completely relieved of pain and was able to walk two blocks without any distress whatever, whereas previously, walking the length of the room would cause severe pain. Benefit from this lasted for about three days after which her pain recurred in less severe form. On November 11, lumbar sympathetic block was carried out with a similar result of somewhat shorter duration. On November 13, left lumbar sympathectomy was done, the second, third and four ganglia and their rami being resected. The patient was dismissed from the hospital on November 26, 1946, markedly improved. She returned to the hospital January 5, 1947, with cellulitis of the leg which promptly responded to treatment with heat and penicillin. When last examined a year following the operation the patient was well, was able to walk a mile without discomfort, and there was no swelling of the leg. She had had no recurrence of the ulceration. The pulsations of the dorsalis pedis and posterior tibial arteries still could not be palpated.

Comment: It is probable that part of this patient's symptoms were due to arterial insufficiency which no doubt accounted for the claudication. But it is thought that most of her difficulty was due to recurrent thrombophlebitis.

Case 7. Mrs. M. K., a 39-year-old beauty parlor operator, was admitted to the hospital on December 28, 1947. She had had severe illiofemoral thrombophlebitis on the left side following a uterine suspension twelve years previously. Ever since then she had had recurrent ulceration of the leg and recurrent attacks of thrombophlebitis. Even between the attacks she had almost constant pain when standing. She was greatly handicapped in her occupation because of pain and swelling, and for the past two years she had been able to work only about half of the time. Physical examination revealed marked swelling of the entire left lower extremity with a large ulcer just above the medial malleolus. There was mild dermatitis of the lower leg. There was a thrombosed varicosity of the internal saphenous vein in the middle portion of the leg which was indurated and very tender.

Course: Novocaine block of the lumbar sympathetic ganglia was carried out on December 29, 1947, with dramatic relief from pain. On December 31, 1947, lumbar sympathectomy was carried out as in the preceding case. Convalescence was uneventful and the ulcer promptly healed. The patient was last examined on May 20, 1948, when she was working full time as a beauty parlor operator with no pain whatever. Her left lower extremity was warm and dry. There was slight swelling of the ankle and foot. Although there was no actual ulceration, the skin just above the

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medial malleolus was slightly dusky in color and the patient was warned to restrict her activities slightly.

Comment: This patient experienced such dramatic relief from pain that she is in danger of engaging in too much activity. When warned in regard to this she stated that it was difficult to restrain herself when she was completely free from pain for the first time in twelve years.

Case 3. Mr. R. N., a 74-year-old retired rancher, was admitted to the hospital December 30, 1947, with severe, weeping eczema of the right leg of two months duration. Twenty years before admission he had severe thrombophlebitis following a herniorrhaphy. Ever since then he had had recurrent attacks of thrombophlebitis, eczema, and ulceration which had caused him much disability. Physical examination revealed marked swelling of the entire right lower portion of the thigh. There was considerable infection over the dorsum of the foot. The internal saphenous vein was indurated and tender over its lower third.

Course: Sympathetic block was carried out on December 31, 1947, and January 2, 1948. This was followed by no relief whatever. The dermatitis responded slowly to treatment with wet dressings of Burro's solution followed by the application of Unna's paste boots. When last seen in March, 1948, he was slightly improved but was still troubled by the dermatitis, and it had to be admitted that the treatment had not helped him.

Comment: This case is typical of those with diffuse dermatitis that do not seem to respond to sympathetic block.

DISCUSSION

While other methods of treatment in addition to interruption of the lumbar sympathetic nerves were employed, it is thought that they were of incidental importance in the eventual outcome. In those cases which showed improvement this was due mainly to sympathetic block or sympathectomy as the other methods had been tried repeatedly in the past with no benefit. It is true that the decision in regard to improvement of necessity depended largely upon the patient's subjective feelings, but the ultimate results were judged by whether or not the patient was restored to a life of usefulness and able to carry on his former occupation.

I do not think that interruption of the lumbar sympathetic nerves will prove to be the treatment of choice in all cases of postphlebitic syndrome but I do believe it should be tried in any case in which there is a chance that it will offer any benefit whatever. Sympathetic block with novocaine is a safe and simple procedure when carried out by one who is familiar with the technique. If sympathetic block cannot be done for any reason it is probable that intravenous injection of tetra-ethyl ammonium chloride might accomplish the same purpose, although it was not used in any of the cases in this series.

In certain cases ligation and division of the femoral or iliac vein is the best procedure. This serves two purposes: it interrupts the sympathetic impulses from the damaged segment of vein and it eliminates a useless, damaged vein thus preventing further attacks of thrombophlebitis with the attendant danger of embolism. However, it is thought that the cases for ligation should be selected with extreme care.

So far sympathectomy has been reserved for those patients with very severe signs and symptoms who have shown dramatic response to novocaine block of the lumbar sympathetic nerves. It is probable that some of the paients who have been treated by sympathetic block will require further blocks in the future or possibly sympathectomy. So far they have not required any further treatment.

I again wish to emphasize the fact that the patients should be impressed with the idea that sympathectomy will not afford them a complete cure and that they should not be lulled into a false sense of security by their absence of pain.

CONCLUSIONS

1. A review of the current methods of treatment of the postphlebitic syndrome is given.
2. Twelve cases of postphlebitic syndrome treated by interruption of the lumbar sympathetic nerves are presented with satisfactory results in seventy-five per cent.
3. The best results were obtained in those patients with severe pain due to recurrent thrombophlebitis or ulceration.
4. While it is not claimed the interruption of the lumbar sympathetics will benefit all cases of the postphlebitic syndrome, it is a safe and rational procedure and should be more widely employed.

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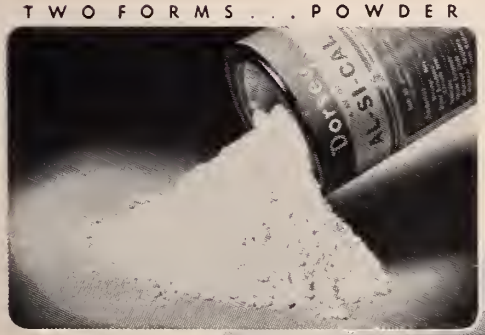
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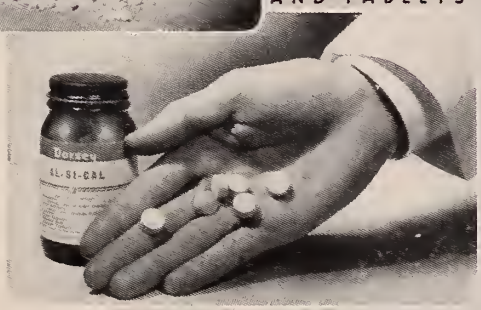
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THE CARDIAC PATIENT AS A SURGICAL RISK

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(CONCLUDED)

There are certain of the active inflammatory diseases of the heart which deserve mention. Among these are acute rhumatic carditis, sub-acute bacterial endocarditis, and diphtheritic myocarditis. Concerning active rheumatic involvement of the heart, it is better to defer operation for at least six months after all activity has ceased if this is at all possible. No patient with active rheumatic heart disease should be subjected to surgery unless it is very urgent, since the smoldering process in the heart may flare up and give rise to serious consequences as a result of shock and lowered resistance. However, surgery in the face of acute rheumatic fever is not nearly so dangerous as it was previous to the advent of penicillin and its use in the treatment of this condition.

Prior to the last few years it has been out of all question to operate in the presence of sub-acute bacteria lendocarditis except in the most urgent cases. Recently, however, since the introduction of penicillin in the treatment of this condition, the situation has considerably altered. It is now well known that it is possible to attain permanent arrest of the infection in about 75 per cent of the cases. Sufficient time has elapsed to warrant the statement that recurrence is very rare since the infection is arrested by adequate treatment with penicillin. It is much better, however, in all cases, to treat with penicillin thoroughly and wait at least three weeks, if this is possible, following the cessation of all signs of activity. Again the risk must be weighed against the benefit to be derived from the operation.

Diphtheritic myocarditis is a very serious condition and sudden death is possible at any time until a number of months or a year has passed since all signs of activity have ceased. Therefore, it is wise to wait for at least six months before attempting surgery, unless the need is urgent and necessary to save life. Usually we do not find that diphtheria leaves any permanent crippling of the heart, so after the active carditis has ceased it is perfectly safe to go ahead with surgical procedures.

THYROTOXICOSIS

In thyrotoxicosis in heart disease surprisingly the patient will usually stand surgery very well. We know that surgical procedures are instituted in a large per cent of cases of thyrotoxicosis for removal of the thyroid, or part of the thyroid, and even other surgical procedures are carried out frequently, especially if the patient is pretty well in the balance with iodides or other treatment at the time.

CONGENITAL HEART DISEASE

Congenital heart disease must be considered, particularly from the standpoint of the seriousness of the lesion and whether or not there has been a history of decompensation or there is decompensation at the time. Operative procedures on the heart are being carried out in these patients, as well as in patients with valvular heart disease from rheumatic fever. As a whole they seem to stand surgery very well.

Heart block and the cardiac arrhythmias present a very definite risk for surgery. Heart block especially is a rather grave risk and if there are dropped beats in addition to heart block the risk is greater than in simpler forms. Intraventricular or bundle branch block is generally due to widespread myocardial disease and should be regarded as a serious risk. Only very urgent surgery is permissible in heart block unless the block is in a simple form. Fibrillation or flutter which is not associated with serious myocardial disease or with evidence of congestive heart failure does not add materially to the risk of operation. Premature beats and extrasystoles are of no special significance unless they are associated with more serious heart disease. Paroxysmal tachycardia of short duration is no contra-indication for surgery and the operation should not be interrupted in case of an attack during surgery. Ventricular tachycardia, of course, is a serious risk for operation and no surgery should be attempted except in extreme emergency.

ANESTHESIA

The choice of anesthetic when surgery is deemed advisable depends on several factors, the chief ones being safety, the rapidity of anesthesia, to prevent excitement and struggling, and third, and most important, the anesthesia must furnish enough oxygen so that anoxia or ischemia of the heart muscle will not take place. In using general anesthesia I see no reason for deviation from the usual in pre-operative medication. Usually morphine and atrophine or Demerol may be used, and if it is thought best one of the barbiturates, such as Seconal or Nembutal may be given. Choice of inhalation anesthesia for general anesthetic is rather wide and I might say at this point that I prefer ether, since it acts as a coronary dilator, and with oxygen in addition, tends to provide the heart muscle with plenty of oxygen. Cyclopropane should never be used when there is any degree of heart block or other cardiac arrhythmias. Nitrous oxide is always best avoided in these cases because the diseased heart muscle or diseased heart needs as much oxygen as it is possible to supply.

I have very little to say concerning local anesthesia except that I do not like to use epinephrine or adrenalin with a local anesthesia because quite often we find attacks of angina brought on by the introduction of a small amount of adrenalin, and there is always danger, of coure, of myocardial infarct forming at that time. Novocaine and procaine are well tolerated in regional and field block and are not contra-indicated. Caudal anesthesia is good for operations about the perineum, and is safe and well tolerated in most instances and is practically free from undesirable reactions. However, the use of spinal anesthesia is limited in patients with heart disease because of the probability of a rapid fall in blood pressure which may induce serious consequences in such patients. The measures employed to combat or prevent such a drop in blood pressure, namely ephedrine and its allies, are in themselves not harmless ordinarily, but they may induce angina attacks if given in the face of a

diseased heart, or they might give rise to various arrhythmias in susceptible patients.

OTHER DRUGS

If one is faced with an emergency operation in a cardiac patient who has a history of congestive heart failure, or who is in congestive heart failure at the time, it is wise to digitalize promptly and this is much more easily done now than it was a few years ago. Strophanthin may be used since its acts more rapidly than most preparations of digitalis, but usually Crystodigin, or one of the other forms of digitoxin or digoxin, may be used in full digitalizing doses and the patient will usually become digitalized in a very few hours. I have given 1.2 mgm. of Crystodigin by rectum and seen the patient pretty well digitalized in 4 to 6 hours. It is preferable to give it at night so that the patient can be operated the next morning and be in very good condition.

Extreme caution should be used in giving parenteral fluids, plasma, or blood, in heart cases, even though the patient is not decompensated at the time of operation. It is not at all unusual for a very small transfusion or small dosage of plasma to precipitate decompensation in an apparently well person, and the risk is even greater in one with a heart condition.

If dextrose is to be given, it should not be introduced in amounts of over 500 c.c. of 5 or 10% solution, and this in water, not saline. Oral administration of fluids up to 2000 c.c. daily is safe and should be started early.

If blood is to be given it should be watched carefully and given very slowly in amounts not to exceed 250 c.c.

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VOL. XXVIII NOVEMBER, 1948 No. 5

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By no means must your letters be laudatory. To the contrary, progress can more often be achieved in a good humored, perhaps sharp ,difference of opinion.

You may either address Delphin von Briesen, M.D., First National Bank Building, El Paso, Texas, or write Southwestern Medicine, 310 N. Stanton, El Paso, Texas.

SOUTHWESTERN MEDICAL ASSOCIATION PROGRAM GENERAL SESSION

Thursday, October 28, 1948

8:30 a.m. Registration—Mezzanine—Hotel Cortez

10:00 a.m. General Assembly—Crystal Ballroom—Hotel Cortez

Opening of Meeting—
Dr. W. W. Schuessler, El Paso, Texas
General Chairman

Welcome by Dr. W. R. Curtis, President, El Paso County Medical Society

Response from Dr. Leslie M. Smith, President, Southwestern Medical Association.

Scientific Session--Dr. Leslie M. Smith presiding.

10:30 a.m. DR. RALPH REIS—"Office Gynecology"

11:15 a.m. DR. R. J. WHITACRE—"Problems During Anesthesia"

12:00 p.m. "Information Please" Luncheon (Medical), El Paso Club, 10th floor.

Dr. A. C. Shuler, Carlsbad, New Mexico, presiding.

Guest Speakers: Drs. Souders, Van Alyea, Kronfeld and Plass.

12:00 p.m. "Information Please" Luncheon (Surgical), El Paso Club, 10th floor.

Dr. F. P. Miller, El Paso, Texas, presiding.

Guest Speakers: Drs. Zollinger, Whitacre, Ghormley and Reis.

2:00 p.m. Dr. R. W. Mendelson, Albuquerque, New Mexico, presiding.

DR. O. E. VAN ALYEA—"Otolaryngology in General Practice"

2:45 p.m.—DR. RALPH K. GHORMLEY—"Prevention and Treatment of Painful Hips in Adults"

3:30 p.m. DR. CARLTON SOUDERS—"The Management of Bronchiectasis"

4:15 p.m. DR. ROBERT M. ZOLLINGER—"Indications for Surgery in Biliary Disease"

6.30 p.m. Cocktails and Buffet—El Paso Biltmore, Route 80

E. E. N. T. GROUP
Thursday, October 28, 1948

Meets Sun Room, Mezzanine Floor, Hotel Cortez, unless otherwise noted

8:30 - 10:00 a.m. Registration, Mezzanine, Hotel Cortez

10:00 a.m. Opening of Meeting—Crystal Ballroom Hotel Cortez

10:30 a.m. Dr. James S. Walsh, Douglas, Arizona, presiding.
DR. O. E. VAN ALYEA—"Treatment of Acute Nasal and Sinus Infections"

12:00 p.m. "Information Please" Luncheon (Medical), El Paso Club, 10th floor.

2:00 p.m. Dr. Archie E. Cruthirds, Phoenix, Arizona, presiding.
DR. PETER C. KRONFELD—"Techniques of Iris Inclusion Operations"

3:00 p.m. Dr. George S. Morrison, Roswell, New Mexico, presiding.
DR. O. E. VAN ALYEA—"Middle Meatal Approach to the Maxillary Sinus"

4:00 p.m. Major Jack Bristow, William Beaumont General Hospital, presiding.
DR. PETER C. KRONFELD—"The Differential Diagnosis of Acute Glaucomas"

Friday, October 29, 1948

9:00 a.m. Dr. Joseph M. Kinkade, Tucson, Arizona, presiding.
DR. O. E. VAN ALYEA—"Sphenoiditis"

10:30 a.m. Dr. Albert W. Egenhofer, Santa Fe, New Mexico, presiding.
DR. PETER C. KRONFELD—"My Pet Surgical Instruments"

12:00 p.m. "Information Please" Luncheon (Medical), El Paso Club, 10th floor.

2:00 p.m. Dr. D. E. Brinkerhoff, Phoenix, Arizona, presiding.
DR. O. E. VAN ALYEA—"Management of Chronic Sinusitis"

3:00 p.m. Dr. W. E. Vandevere, El Paso, Texas. presiding.
DR. PETER C. KRONFELD—"Selected Cases of Retinal Detachment"

4:00 p.m. Business Meeting

GENERAL ASSEMBLY
Friday, October 29, 1948

Dr. Leslie M. Smith, El Paso, Texas, presiding.

9:45 a.m. DR. PETER C. KRONFELD—"First Aid in Eye Injuries"

10:30 a.m. DR. RALPH REIS, "Present Status of Gynecology and Endocrinology"

11:15 a.m. Dr. HUGH HARE—"Carcinoma of the Thyroid"

12:00 p.m. "Information Please" Luncheon (Medical), El Paso Club, 10th floor.
Dr. Joseph Bank, Phoenix, Arizona, presiding.
Guest Speakers: Drs. Souders, Hare, Plass, Van Alyea and Kronfeld.

12:00 p.m. "Information Please" Luncheon (Surgical), El Paso Club, 10th floor.
Dr. R. E. Watts, Silver City, New Mexico, presiding.
Guest Speakers: Drs. Zollinger, Ghormley, Reis, Whitacre.

GENERAL ASSEMBLY

Dr. E. M. Hayden, Tucson, Arizona, presiding.

2:00 p.m. DR. CARLTON SOUDERS—"Clinical Aspects of Carcinoma of the Lung"

2:30 p.m. DR. HUGH HARE, "Lymphoma and Lymphoid Tumors"

3:15 p.m. DR. E. D. PLASS, "Use of Chemotherapy and Antibiotics in Obstetrics"

4:00 p.m. Business Meeting

6:30 p.m. Cocktails—Mezzanine, Hotel Cortez.

8:00 p.m. Annual Banquet—Crystal Ballroom—Hotel Cortez

GENERAL ASSEMBLY
Saturday, October 30, 1948

Dr. J. M. Greer, Phoenix, Arizona, presiding.

9:00 a.m. DR. E. D. PLASS—"Use of Blood in Obstetrical Complications"

9:45 a.m. DR. RALPH GHORMLEY—"Late Effects of Fractures About the Joints of the Lower Extremity"

10:30 a.m. DR. R. J. WHITACRE—"Endotracheal Anesthesia"

11:15 a.m. DR. ROBERT M. ZOLLINGER—"Current Trends in the Surgical Treatment of Lesions of the Stomach and Duodenum"

12:00 p.m. Luncheon—Open

2:00 p.m. Golf Tournament, El Paso Country Club

8:00 p.m. Football Game: Hardin-Simmons vs. Texas College of Mines. Kidd Field.

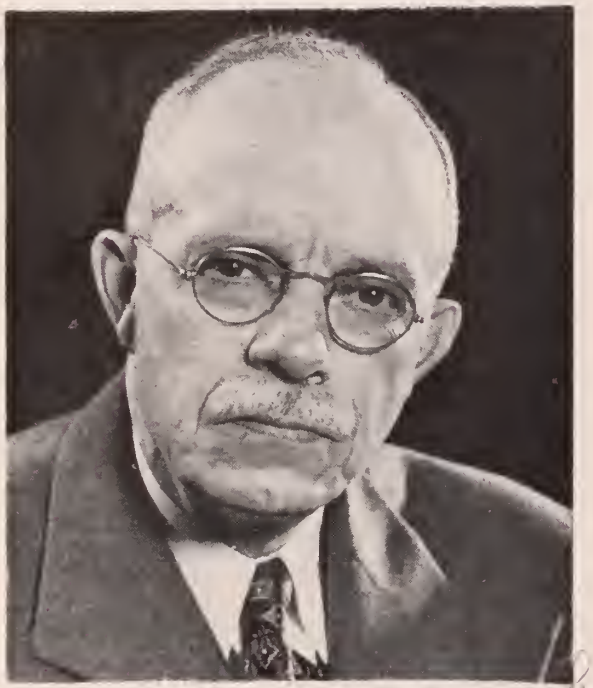
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Home of Mrs. E. G. Causey, 1009 Park Road

Friday, 12:30 p.m. Luncheon, Hotel Paso Del Norte
Style Show ,Courtesy of the White House

Saturday, 12:00 p.m. Luncheon, The Tivoli, Juarez, Mexico

GUEST SPEAKERS HIGHLIGHT OCT. 28-30 CONVENTION PROGRAM



DR. E. D. PLASS, professor of obstetrics and gynecology, State University of Iowa, Iowa City, Iowa. Dr. Plass is known throughout the United States.



DR. RALPH REIS, Chicago, Illinois. Dr. Reis will speak on office gynecology and also concerning the present status of endocrinology.



DR. CARLTON SOUDERS, internist, Lahey Clinic, Boston, Mass. Bronchogenic carcinoma and bronchiestasis are the subjects Dr. Souders will discuss. He has had wide experience in the diagnosis of chest disease.



DR. ROBERT M. ZOLLINGER, chairman of the department of surgery, Ohio State University, Columbus, Ohio. Surgery of the gastrointestinal tract is Dr. Zollinger's subject.

Prominent Specialists from Five States To Address Over 200 Members of Southwestern Medical Association During El Paso Meeting

Dr. Hugh Hare Not Shown



DR. RALPH K. GHORMLEY, orthopedist, Mayo Clinic, Rochester, Minn. Dr. Ghormley has long been one of the leading members of his field in the United States.



DR. PETER C. KRONFELD, University of Illinois opthalmologist, will address both the general and specialist groups on surgical and medical treatment of eye disease.



DR. O. E. VAN ALYEA, otolaryngologist of Chicago, will address both the general group and the EENT groups on various subjects in his field.



DR. R. J. WHITACRE, anesthetist of Huron Road Hospital, Cleveland, Ohio, will speak on problems of anesthesia.

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SOME RECENT ADVANCES IN DERMATOLOGIC THERAPY

H. D. GARRETT, M. D.
EL PASO, TEXAS

During the past few years definite advances in therapeutic efficiency have occurred as the result of investigation into pharmacologic effects of new chemical compounds. In dermatology the physician often has a choice of several effective remedies, whereas, in the past, failure or one or two therapeutic modalities meant prolonged discomfort for the patient. Since it is impossible in one paper to discuss all these advances, only a few more important additions to therapy in dermatology will be considered.

Probably the most widely described and commonly used recent innovations in therapy are the various antibiotic substances. Penicillin, in common with sulfonamide drugs, has been elevated to frequent use in certain dermatoses, but these two agents possess the unfortunate potentiality of producing cutaneous sensitization, both epidermal as well as dermal types. Therefore, either topical or injection administration of penicillin is apt to lead to a worse dermatologic condition than that for which the antibiotic was administered. Templeton and associates[1] reported that individuals whose skins are in an unstable equilibrium because of some exudative dermatosis are poor risks for use of penicillin, and they warn against indiscriminate use of the drug. Goldman[2] advised that topical penicillin therapy be limited to impetigo, superficial impetiginized dermatitis, pustular folliculitis and obvious secondarily infected wounds or burns. No value has been found in therapy utilizing penicillin in the management of inflammatory dermatoses involving tissues not accessible to topical application, i.e., conditions such as seborrheic dermatitis, psoriasis and similar disorders.

Areas of skin which have been invaded by certain fungi are thereby rendered sensitive to application of penicillin or to its injection; Lewis,[3] along with others, has reported this occurrence as a common finding. Penicillin by injection is most helpful in furunculosis, superficial and deep pyodermas, carbuncles, cellulitis and impetigo. There is no need to discuss injectable preparations of penicillin, as they are widely known. Topical penicillin preparations should be freshly made and should contain 500-1000 units of penicillin per gram of ointment or per cubic centimeter of solution.

Tyrothricin is an adjunct to dermatologic therapy which holds some promise of greatness.[4] This substance is the extract from a soil bacillus, Bacillus brevis, and combines two active agents: gramicidin, which is effective against gram-positive organisms, and tyrocidine, which is bactericidal for gram-negative organisms. The chief disadvantage of this product lies in the fact that it must be confined to topical use solely, as it possesses strong toxic and hemolytic effects when injected into tissues. In contrast to penicillin, this agent has a low sensitizing potential, and, when applied in the proper vehicle, serves as an excellent modality for the treatment of superficial pyodermas, such as occur in ulcers. It is important to remember that a cream or ointment base for tyrothricin inactivates the antibiotic agent, according to Sulzberger[5] and others who have studied this problem. The preferable means of application is the utilization of intraderm tyrothricin,[6] a special vehicle containing the antibiotic, which, when properly diluted, produces a mixture suitable for wet applications.

Topical administration of streptomycin has not been fully investigated, but it has found a useful purpose in treatment of infections caused in part or in toto by bacillus pyocyaneous[7]; otitis externa is perhaps the best example of such an infection. A solution containing 25-50 mg. per cubic centimeter may be used as a wet dressing or an irrigating solution, or an ointment may be employed containing the same concentration per gram of base. The principal indication in dermatology for use of streptomycin by injection is in treatment of granuloma inguinale[8]; rather spectacular results have been obtained by such therapy. The future role of streptomycin in the management of tuberculosis of the skin is not yet established, although O'Leary[9] and others have manifested some optimism. Cutaneous eruptions from both contact with[10] and injection of[11] streptomycin have been reported, and it can be assumed that as the drug finds more usage that the number of sensitivities will increase.

Bacitracin, another antibiotic, which is produced by the gram-positive, sporulating bacillus of B. subtilis group, shows promise in the treatment of superficial pyogenic infections.[12] The most suitable vehicle for its use is now being sought and it will assume its position in the future among the other antibiotics, many of which are under study presently.

Physicians today are besieged by great masses of samples and literature on the antihistamine drugs. In this field of endeavor the pharmacologist's goal is the perfection of a chemical compound which will successfully oppose the action of histamine liberated within the tissues, and at the same time not produce symptoms by its own action which would be deleterious to the welfare or productive ability of the individual. This group of drugs has been prescribed in a "scatter-shot" fashion in all dermatoses in an attempt to relieve not only distressing pruritus but inflammatory lesions. It is now evident that the employment of these compounds in dermatology is indicated only in the urticarial dermatoses, from whatever cause, and in some cases of atopic dermatitis.[13] Since in inflammatory dermatoses, such as psoriasis and lichen planus, pruritus is due to a cellular infiltrate in the cutis surrounding the nerve terminals and not to liberation of histamine, as in urticarial cases, there is no reason to employ antihistamine compounds.

Many comparisons of therapeutic effectiveness versus side-effects of these drugs have been reported[14,15] In most reports pyribenzamine rates as the drug of choice, being closely followed by benadryl and neoantergan. Topical application of antihistamine compounds in ointment bases has been generally discouraging as a means of relief of pruritus; however, thephorin ointment, not yet released for general use, appears to have rather marked effectiveness in certain cases.

A third addition to the armamentarium of physicians treating diseases of the skin is that of vitamin D_2 and its related compounds. In those portions of

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the world where tuberculosis of the skin is prevalent, this form of therapy is hailed as the greatest advance in the past thirty years. Although this particular group of dermatoses is relatively rare in our section of the country, consideration should be given in view of the relief obtained in a group of dermatoses previously resistant to treatment.

Irradiation of ergosterol results in the formation of a series of pharmacologic compounds of different properties. Of the series calciferol (vitamin D_2) is the only member which is antirachitic, the other compounds having actions like the parathyroid hormone; chief among these latter compounds is dihydrotachysterol (AT-10), a reduction product of tachysterol. Both calciferol and AT-10 profoundly influence calcium and phosphorus metabolism. Parathyroid-like hormones do not effect absorption of phosphorus and calcium from the intestinal tract but rather promote the excretion of phosphorus in the urine; this in turn lowers the phospate content of the blood and calcium is mobilized from the bones to raise the serum calcium level. In contrast, calciferol enhances the intestinal absorption of calcium and phosphorus and the serum calcium level is thereby elevated; the vitamin, to a minor extent, increases phosphorus excretion in the urine, in a manner similar to AT-10.

The exact mechanism by which this increase in serum calcium effects its dramatic results is not known. Charpy[16] believes that an increase in phosphatase in the tissues causes a lysis of the tubercle bacilli, the vitamin D_2 being responsible for the increase of phosphate ions in the tissues. Dowling[17] postulates that the reticular tissue or hemapoetic tissue is stimulated in such a manner as to cause resolution of the tuberculosis process; he feels that calciferol is not so much a chemotherapeutic agent as it is a catalyst for a normal healing process.

Lupus vulgaris, a nemesis in dermatology, responds in most cases very favorably to calciferol therapy[13]; the prognosis of the disease has been greatly improved, indeed. Erythema induratum, tuberculosis colliquativa (scrofuloderma) and tuberculosis verrucosa cutis have shown favorable response not quite so marked as in lupus vulgaris. Sarcoidosis, whose tuberculous etiology is not definitely established, has in some instances improved rapidly. In general, those dermatoses in which tubercle bacilli are found in the tissues improve most under this therapeutic regime; less notable effect is had in those conditions due to the hematogenous dissemination of tubercle bacilli or their products.

The dosage of calciferol usually employed is 150,000 to 300,000 units daily by mouth; this amount must be given for several months in some cases for the desired result to be obtained. Some dermatologists have utilized the intramuscular route of injection, but the oral mode of therapy is equally effective and more easily maintained. These compounds are potentially toxic and the administration must be coupled with frequent observation of the patient as well as performance of serum calcium level determinations at

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intervals during protracted courses of therapy. The chance of kidney complications, such as acute nephritis, is ever present; fortunately, the patient usually develops symptoms which indicate cessation of the drug before any severe damage is done to the kidney.

Among other advances in dermatologic therapy, which cannot be discussed in the present brief paper, are biochemical studies of the common fungi affecting human skin and means of eradication, value of para-aminobenzoic acid in certain dermatoses, the functions of podophyllin applied externally and the uses of vitamins A and E in skin disorders. Investigative procedures on a large scale are now in progress on these and many other problems related to dermatology, and the future will find the dermatologist accomplishing much more than applying an ointment to the patient's skin. Moreover, despite the ancient and trite adage to the contrary, the dermatologist will undoubtedly enable many patients to recover from their dermatoses in a relatively brief period at a reduced financial burden.

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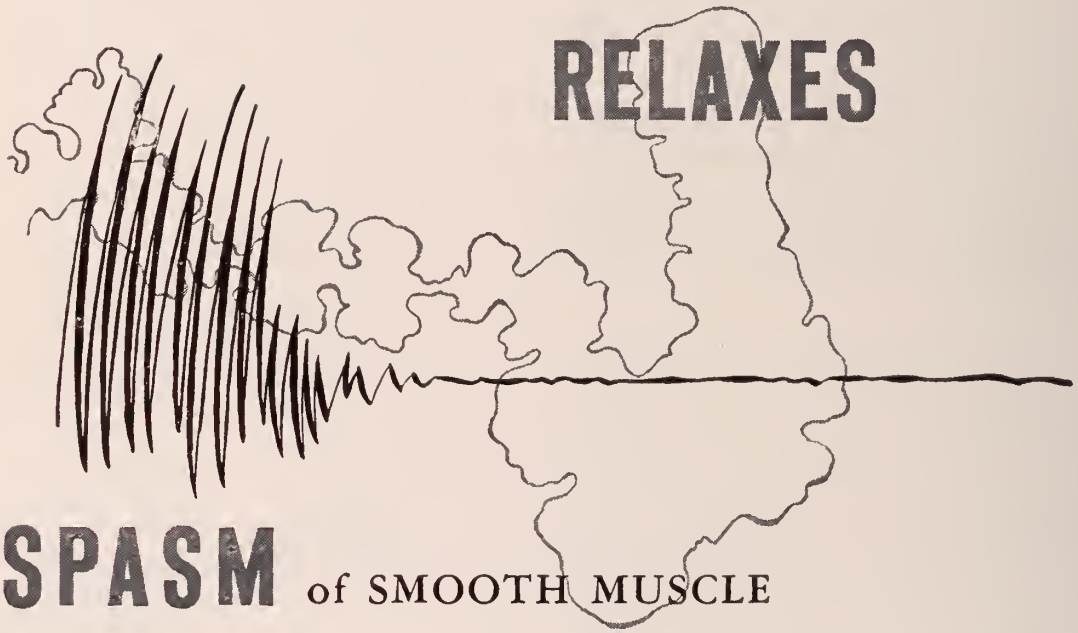
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TREATMENT OF RESIDUAL POLIOMYELITIS

DAVID M. CAMERON, M. D., F. A. C. S.
EL PASO, TEXAS

Treatment of residual poliomyelitis begins at the time of diagnosis. Accepted methods of early treatment should be carried out; consisting of rest, sedation, hot packs, and splinting for prevention of deformities. After the acute stage is past the patient falls into the convalescent period; this period lasts about two years. During this time, the physician's and physiotherapist's main attention is directed towards prevention of deformities and restoring of muscle power as is best possible.

Prevention of deformities consists of adequate bracing so that the weak muscles are not stretched; what is usually referred to as the normal position of the extremity or back is maintained. This is the physician's and bracemaker's responsibility; the physician determines which muscles require splinting and rest, and the bracemaker fills the required prescription. After the brace is applied, it requires continual attention, not only by the physician but by the parents and bracemaker, as changes are made as muscles improve or become weaker.

Most important part of the convalescent's care is recovery and training of muscles. This must be done by the physiotherapist and physician. However, the large responsibility rests upon the parents of the disabled child. Some patients require long periods of hospitalization because of their disability, while others may be returned home very promptly. During their hospitalization, one or both parents must follow the physiotherapist in her method of stretching strong muscles, relaxing weak muscles and coaxing weak muscles into contracting. The physician's and physiotherapist's work is of no avail unless the work is carried on persistently at home under the guidance and direction of the parent.

After the child is discharged from the hospital to the care of the parents, there should be periodic check-ups; not for actual therapeutic purposes, but, for the purpose of checking upon the activities of the parent and child. New exercises and activities can be added and ununecessary activities dropped. During the first month or so after the child has been released from the hospital, this should be done weekly; however, after the child and parents have learned to cooperate, this is not required more often than every month or so. During the convalescent stage, it is felt that no compensatory activity should be carried out whatsoever. The child has every right to expect to be a human being. By this I mean that he has the God-given right of standing on two feet. He should not, during this stage or any other stage, be allowed to slither around on the ground like a snake or reptile; if he cannot walk, he should be made to sit on a chair; if he cannot sit on a chair, he should be made to lie in bed. Every method should be employed to get the child, or patient, into the upright, standing position. After two years it is ordinarily believed that muscles that are going to return, have returned, that very minimal muscle return can be expected after this time.

This writer does not intend to go into the various techniques of bony operations, and muscle transplanting that have been devised. He merely wishes to state that he does not believe surgery should be carried out on patients until they reach approximately the age of eight. The reason for this is that, prior to this time, most of the bones of the extremities are more cartilaginous than oseous. If adequate surgery is done so that bony fusions, etc., are accomplished, a great deal of cartilage is removed, leaving a small, short and inferior extremity. A child who has been splinted early in the course of his convalescent care of poliomyelitis has become used to his brace, and to his way of thinking, this is a normal situation for him. It is not a great handicap for a patient to wear a brace for a few more years until such time that surgical intervention can give him adequate relief.

It has been stated that the only advances made in the treatment of acute poliomyelitis during the last fifty years has been during the convalescent and residual stages of the disease. Surgical techniques have been developed to a very high degree and marked improvements of residual disabilities have been accomplished. When we have found the method of curing infantile paralysis, the care of residual poliomyelitis will be of very little concern.

The treatment of residual infantile paralysis consists in determination, persistency, diligence, and, above all, good humor.

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Ninth Speaker for Program

Originally not on the program Dr. Hugh Hare, radiologist of the Lahey Clinic, Boston, will address the meeting of the Southwestern Medical Association, El Paso, October 28-30, on the following subjects: Lymphomas or Lymphoid Tumors, and also Thyroid Tumors.

Dr. Hare is visiting in Las Cruces, New Mexico, and kindly consented to prepare papers for this meeting. He is a widely known radiologist.

Cocktail Party To Precede Banquet

The cocktail party which precedes the annual banquet Friday evening, October 29, will be held at 6:30 p.m. on the mezzanine floor of Hotel Cortez and will be given by the El Paso County Medical Society, Dr. W. R. Curtis, president of the group, has announced.

Traditionally a part of Southwestern Medical Association programs, the affair will be attended by both visiting physicians and their ladies.

Convention To Conclude With Football Game

Scheduled as the last item on the three-day Southwestern Medical Association program, the Hardin-Simmons — Texas College of Mines football game promises to be one of the most exciting Border Conference games of the season. The game will be played at 8:00 p.m. Saturday, October 30, at Kidd Field.

Hardin-Simmons has the edge in games won in previous meetings between the two teams. However, boasting the best team in its history, Mines has gone undefeated so far this year and will enter the field the favorite.

Hardin-Simmons lost to Arizona in Tucson and defeated New Mexico in Albuquerque in two very hard played games. Mines has successively defeated McMurry, Houston, West Texas and Brigham Young.

A block of seats has been reserved for physicians attending the association meeting. Reservations can be made on program invitations previously mailed to Southwest physicians. Tickets so reserved will bear the name of the individual and are being held in the lobby of the Hilton Hotel. They may be obtained any time prior to the game.

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Golf Tournament Scheduled For Last Day of Meeting

Details of the Golf Tournament scheduled for Saturday, October 30, the last day of the Southwestern Medical Association meeting, have been released by Dr. Ralph Homan, head of the tournament committee.

Matches may be played at the El Paso Country Club throughout Saturday with the exception of hours between 12:00 noon and 2:00 p.m.

If playing with a Country Club member, participants will be informed of details by the member. However, participants may play in foursomes of their own, without club members, Dr. Homan said. In this event players should first report to Jack Hardin, club professional, for instruction and details.

Top two prizes for tournament winners will be a set of woods. Other appropriate prizes will be presented to winners in other categories, Dr. Homan said.

Speakers To Receive Gifts

Each of the nine guest speakers who will appear during the three-day Southwestern Medical Association program will receive a belt and silver buckle, Dr. Leslie M. Smith, association president, has announced.

Presentation of the gifts will be made Friday evening, October 29, at the annual banquet, scheduled for 8:00 p.m. in the Crystal Ballroom of Hotel Cortez.

As a souvenir of typical southwestern hand craftsmanship, the belts and buckles will be presented by the Southwestern Medical Association.

Book Review

MICROBIOLOGY and PATHOLOGY, Charles F. Carter, B.S., M.D., Dallas ,Texas. C. V. Mosby Company, St. Louis, 1948, $5.00.

This is a revised edition of a work in print since 1936. It is primarily for nurses and offers a rather extensive explanation of its subject in a form easily understood by those without formal medical training.

A section of laboratory exercises and a glossary are very good. Suggestions for a course in the subject and methods and demonstrations for carrying it out are included and are a valuable portion of the book.

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OFFICIAL JOURNAL OF THE SOUTHWESTERN MEDICAL ASSOCIATION AND THE EL PASO COUNTY MEDICAL SOCIETY



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(PRINTED IN ITS ENTIRETY)
ROBERT M. ZOLLINGER, M. D. OHIO STATE UNIVERSITY, COLUMBUS, OHIO, AND STANLEY O. HOERR, M. D., OHIO STATE UNIVERSITY, COLUMBUS, OHIO

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Southwestern Medicine

Journal of
SOUTHWESTERN MEDICAL ASSOCIATION
and
EL PASO COUNTY MEDICAL SOCIETY

VOL. XXVIII DECEMBER, 1948 No. 6

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First National Bank Building, El Paso, Texas

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ADVERTISING AND SUBSCRIPTION OFFICES
Southwest National Bank Building, 310 North Stanton
Published at 223 South Oregon, El Paso, Texas

Five dollars per year 50c single copy

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Convention a Success

Much time and effort on the part of many interested people went into making the first postwar meeting of the Southwestern Medical Association an outstanding success.

Certainly the future of the association as a clinical group is assured and therein lies the means of promoting and securing the welfare of the medical profession throughout the extensive Southwest area.

It would be impractical to list the names of all the committee members who made contributions to the success of the convention. All of them worked hard and diligently and their efforts have not gone unnoticed.

Thanks go, too, to the eight outstanding speakers who gave unstintingly of their information and knowledge, as well as to El Paso newspapers, which reported conscientiously and generously the doings of the convention.

Finally, we would especially like to thank those firms sponsoring commercial exhibits at the convention and without whom the meeting could not have been held at all. These firms are listed below:

Mezzanine Floor Exhibits: General Electrical X-ray Corporation, P. O. Box 1850, Dallas 1, Texas; Standard Surgical Company, Inc., 710 North 1st Street, Phoenix, Arizona; and E. R. Squibb and Sons, 745 5th Avenue, New York 22, N. Y.

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Who Belongs to the S. W. M. A.?

Numerous queries concerning eligibility for membership in the Southwestern Medical Association have been directed to this office subsequent to the convention meeting just passed.

Dr. W. R. Curtis, secretary-treasurer of the association, has clarified the point and your attention also is directed to the third paragraph of the report of the Committee for the Revision of the Constitution and By-Laws, published elsewhere in this issue.

Membership in the Southwest group is automatic with registration and payment of registration fee at any given annual convention. Those physicians who registered at the October, El Paso meeting are therefore members in good standing for the year 1948-1949, or until the next annual convention. Southwestern physicians who did not attend the convention will, necessarily, have to wait until the next one at which time they can register and thus become bona fide members of the association.

San Antonio To Sponsor Medical Meet

The International Post-Graduate Medical Assembly of Southwest Texas has announced a three-day meeting to be held in San Antonio, Texas, January 25 through January 27.

Approximately 15 specialists from all sections of the country are scheduled to speak. Each will deliver three lectures.

Registration fee is $20.00. Hotel reservations are available through the International Post-Graduate Medical Assembly of Southwest Texas, P. O. Box 2445, San Antonio, Texas.

New Officers Named at Meeting

Among items of business covered at the Southwestern Medical Association meeting in El Paso was the election and installation of officers for the ensuing year.

New officers are president, Dr. Joseph M. Greer, Phoenix; president-elect, Dr. I. J. Marshall, Roswell, N. M.; first vice-president, Dr. W. E. Vandevere, El Paso, and second vice-president, Dr. Joseph Bank, Phoenix.

Selection of next year's convention city was not decided during the meeting. This decision rests with the association's executive board which will meet early in January to name the city.

If you are changing or have changed your office location, please notify SOUTHWESTERN MEDICINE, 310 N. Stanton, El Paso, Texas. We are not always informed of changes of address by the Post Office. A postcard from you will keep our records up to date and keep the journal coming to you regularly.

REPORT ON REVISION OF THE CONSTITUTION AND BY-LAWS

As Recommended at the 1948 Meeting of the Southwestern Medical Association, Held in El Paso, October 29, 1948

The committee for the revision of the constitution and by-laws, Dr. Louis W. Breck, El Paso, chairman, reported at the annual business meeting making certain recommendations toward revision of the constitution and by-laws to bring them up to date.

In view of the changing character of the association from a closely knit organization with rigid requirements for membership to a more loosely knit organization operated as a clinical conference each year, it was felt necessary to change the requirements for membership and to abolish the annual dues. It was recommended that those portions of the constitution relating to these matters be changed.

A considerable part of the constitution deals with the Board of Censors. It was recommended that this board be abolished and that membership be automatic to those attending the annual meeting, the only other qualification for membership being that the doctor is in good standing in his local county medical society and the association of the state in which he resides. These changes were recommended at the 1948 meeting but will not be effective until the 1949 meeting as they must be held over one year.

By-Laws

The by-laws of the association were revised to conform with the present plan of operation of the organization. The recommendations made by the committee, were read and discussed. Motion was made, seconded and passed that all the recommended changes be made and the new by-laws are herewith published in full.

Article 1. Duties of Officers

Sec. 1. The president shall preside at all meetings, shall be chairman of the Executive Committee and ex-officio member of all standing committees, and shall perform all the duties usually incident to that office.

Sec. 2. The president-elect shall serve as a member of the Executive Committee and chairman of the Membership Committee. He shall assume the office and duties of president at the opening of the general business session of the meeting following his election.

Sec. 3. The two vice-presidents shall serve as members of the Executive Committee and shall represent the association on the Board of Managers of SOUTHWESTERN MEDICINE. In the event of illness, death or absence of the president, the first vice-president shall serve in his stead. In the event of the inability of the first vice-president, the second vice-president shall serve.

Sec. 4. The secretary-treasurer shall keep a correct record of all proceedings of the association and of the Executive Committee; have charge of all books, papers and other documents of the association and shall conduct all correspondence, including notices to members. He shall collect all money, keeping a correct account of same, and shall render at the annual meeting a detailed report of all receipts and expenditures. At the expiration of his office he shall hand over to the Executive Committee or to his successor all money and property in his possession belonging to the association. He shall be a member of the Executive, Membership and Publication Committees.

Article 2. Duties of Committees

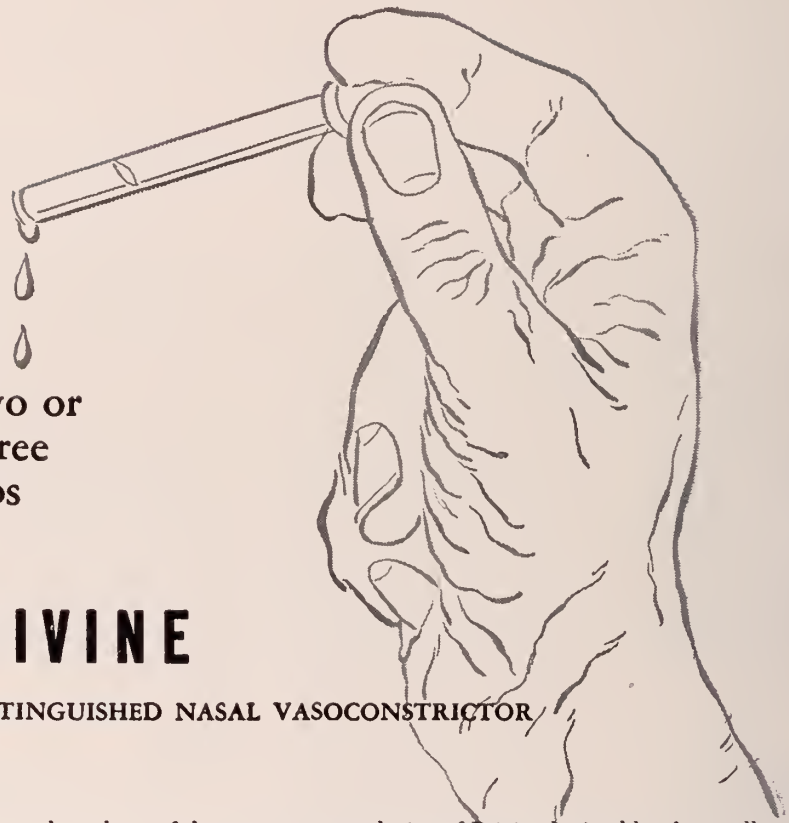
Sec. 1. The Executive Committee shall consist of the elected officers and the chairman of the Board of Censors. This committee shall be the Board of Trustees of the association, and shall perform all the duties usually performed by such a board. They shall have authority to act for the association between annual meetings. In cooperation with the Program Committee they shall make all the arrangements for the annual meeting. They shall serve as the finance committee with authority to expend the funds of the association. They shall determine the dates of the annual meeting and arrange with the entertaining society for financing the expenses of such meeting. They shall have authority to invite voluntary contributions from the members of the association for any extraordinary expense which seems necessary for the advancement of the association. They shall not have authority to levy compulsory assessments on the members, but may set the amount of a registration fee for the annual conference.

(To Be Concluded)

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CURRENT TRENDS IN THE SURGICAL TREATMENT OF LESIONS OF THE STOMACH AND DUODENUM

ROBERT M. ZOLLINGER, M. D.
Professor of Surgery and Chairman of the Department of Surgery, Ohio State University, Columbus, Ohio
and
STANLEY O. HOERR, M. D.
Associate Professor of Surgery, Ohio State University, Columbus, Ohio

Complaints referable to the stomach are among the most common encountered by the physician. Fortunately, the majority are inconsequential. However, the incidence of benign ulceration of the stomach or duodenum is relatively high, and the morbidity associated with these lesions is a serious economic problem. Furthermore, carcinoma of the stomach is one of our most common killers. It is no wonder that so much effort is being expended in these fields to improve treatment.

DUODENAL ULCER

Cunha, in discussing peptic ulcer, recently called attention to the fact that during the past 50 years one finds 14 etiologic theories and concepts as to cause, 19 non-pharmaceutical preparations, 89 different pharmaceutical preparations and 46 regimes in therapy recommended. To this impressive list could be added numerous surgical procedures which have been advocated with high hopes. According to many articles in medical literature and lay pictorial press in recent years, the problem of peptic ulcer has been solved by vagotomy. More recently some brave souls have ventured to question this optimistic outlook. No one can predict the next drug or operation which will be enthusiastically reported. This is not an unusual situation in medicine when we find ourselves treating a chronic disease of unknown etiology. Although the etiology of duodenal ulcer is unknown, the importance of the acid factor is emphasized from all experimental and clinical evidence. Both medical and surgical therapy is directed either toward the neutralization of the gastric juice or the decrease of its production.

It is helpful to classify patients with duodenal ulcer into three types: mild, moderate and severe. Surgery should be reserved for severe cases, the medical failures. It has been our experience that no more than 10 per cent of all patients with duodenal ulcer develop some complication requiring surgery, or prove so intractable that operation is sought to control pain. Improvements in medical management may well cut this proportion even further. Both physicians and surgeons tend to develop a routine form of treatment which they apply to every patient with ulcer. This is a mistake, because a severe case will require more intensive therapy than others. The commonest omission is a period of absolute rest in bed. The management of stubborn cases should include, if at all possible, hospitalization and a systematic regimen under supervision for several weeks. During this time the patient also can be educated as to diet, frequency of medication, and the benefits of sufficient rest. Sometimes economic factors will not permit a lengthy period of bed rest or hospitalization; under such circumstances the physician must be guided by his own best judgement in protecting the overall interests of the patient.

The trend today is against recommending surgery for patients with a chronic duodenal ulcer unless the patient has already had "adequate" medical therapy; adequate therapy is generally interpreted as including a period of hospitalization. Prior to 1930, when this view was not generally adopted, a much higher proportion of cases were subjected to surgery without a proper trial of conservative measures. The long-term follow-up on these cases shows that the surgeon was fairly certain to have an excellent result in mild and moderate cases, irrespective of the operative procedure employed. Today we believe that the bulk of these patients could have and should have been controlled by a good medical regimen. The thoroughness of medical care, therefore, should be evaluated by all concerned before elective surgery is recommended.

In selecting the surgical procedure to be performed for any given patient, the surgeon, like the physician, should avoid the pitfall of using a routine. He may employ a procedure currently in vogue, or one that he learned during his period of training, and because of his increasing technical proficiency at that particular operation, avoid others—perhaps more suitable for the patient—at which he is less adept. A slavish devotion to one particular procedure will necessarily result in a higher increase of failure than is necessary.

Everyone is familiar with the general indications for surgery in peptic ulcer which include (1) free perforation; (2) massive hemorrhage; (3) pyloric obstruction and (4) intractable pain. Many of these complications may be avoided by intensive medical therapy. A fifth indication may be the possibility of malignancy in a gastric ulcer.

Free Perforation. There is little new to be said concerning the management of the patient with a free perforation. Prompt operation is always indicated in the patient seen within a few hours of the perforation, and is usually advisable even if there has been some delay. Most surgeons feel that a simple closure of the perforation is all that should be done, since the mortality in these cases is still high. A biopsy may be added if the ulcer is gastric; this adds nothing to the risk and may make possible an early diagnosis of malignancy. The use of constant gastric suction, massive doses of penicillin, frequent blood transfusions, and proper use of fluids has lowered the mortality. The importance of a strict medical regimen for these patients postoperatively cannot be overemphasized. The patient unfortunate enough to have had a perforated ulcer must be classed as a severe case. In our experience, about fifty per cent of these patients get into difficulty later on unless they are closely supervised by their physician.

Massive Hemorrhage. There is probably more disagreement in the management of massive hemorrhage

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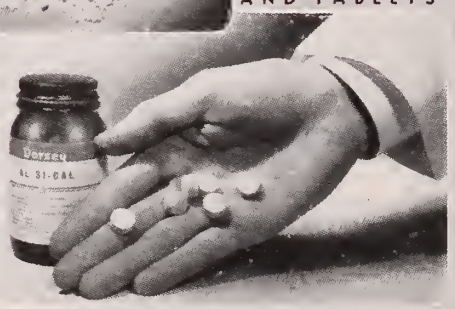
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than in any other complication of ulcer. There are two chief problems: (1) How long is one to wait before carrying out surgery? and (2) Is the patient bleeding from a certain ulcer, or is the origin of the bleeding some other lesion not correctable by operation?

It is extremely difficult to lay down set rules which apply to every case. Since the mortality rate on conservative management is higher in patients over 50 years of age, there has been a tendency toward conservatism in younger patients, and toward operation within 48 hours of onset in the older age group. More recently the emphasis has been placed upon the rate of hemorrhage, whether steady, or intermittent as shown by recurrent syncope or shock.

It must be recalled that although peptic ulcer—usually in the duodenum—accounts for about 75 per cent of all cases of massive upper gastro-intestinal hemorrhage, the other 25 per cent bleed from esophageal varicies, acute gastritis, gastric neoplasm, etc. There is also an undeterminate group which may constitute 10 per cent or more of all cases in whom the exact source of hemorrhage is never determined, even at post-mortem examination. Emergency surgery should be resorted to only in patients with a proven gastric or duodenal ulcer, or gastric neoplasm.

There is usually no difficulty in diagnosing severe hemorrhage. These patients should be hospitalized whenever possible. They require blood, and sometimes as much as 2,000 cc must be given rapidly to establish the circulation of an exsanguinated patient at safe levels. More frequently small amounts initially will suffice. It is a mistake to administer glucose and/or saline solutions as an emergency measure; such solutions will temporarily support the circulation, but ultimately result in loss of the more important components of the blood through increased capillary permeability. Plasma may be used until whole blood is available. Demerol or one of the barbiturates are useful to allay pain or anxiety. If the patient is vomiting, we have not hesitated to employ constant gastric suction unless there is good reason to suspect from the history that the hemorrhage is coming from esophageal varicosities. If there is no vomiting, a bland diet with some type of non-absorbable alkali is started at once. It is unwise to use ice externally on the epigastrium, since Bisgard has shown that this increases gastric motility.

An important feature of the immediate management is the establishment of a graphic record of the pulse rate and blood pressure, to be taken and recorded at least every 30 to 60 minutes. The busy physician can then see at a glance the state of the patient's condition. He can, if he desires, have the nurse notify him at once if the pulse rate exceeds a certain level, or the systolic blood pressure drops, and order additional blood as indicated.

In our hospital we have worked out a system with the Medical Service, based upon a complete evaluation of the patient's progress every eight hours, day and night, until there is convincing evidence that bleeding has ceased. A red cell count, hemoglobin level and hematocrit are determined every eight hours during the twenty-four hour period. Blood urea nitrogen and plasma proteins are determined daily. An accurate record is kept of the total fluid intake and out-put.

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outlined. Danger signals of persistent bleeding, or recurrent massive bleeding, are to be found in hematemesis, persistent tarry stools, faintness or syncope after temporary improvement, and sudden rises in the pulse rate or drops in the blood pressure. Progressive hemo-dilution shown by laboratory tests may signify continued bleeding or insufficient blood replacement. We have established the arbitrary rule of giving 500 cc of blood every eight hours, day and night, if there is evidence of continuing hemorrhage. This may be continued for several days if necessary. If however, it becomes manifest by any of the danger signals already noted, that the patient continues to require more than this amount of blood, we consider performing an emergency operation.

If a definite lesion of duodenum or stomach has not been established by previous studies, we insist upon an emergency x-ray in an effort to prove the presence of an ulcer. This can be a safe procedure if the roentgenologist is warned to be gentle, and if adequate blood is immediately available. If the x-ray examination is negative, or shows esophageal varices or gastritis, we are inclined to rely entirely upon the continued use of whole blood transfusions, increasing the frequency and rate if necessary. If surgery is decided upon, at least six pints of blood should be available. The preferred surgical treatment is gastric resection with direct control of the bleeding point.

THE NUTRITIONAL PROBLEM IN ELECTIVE OPERATIONS FOR CHRONIC ULCER

In contrast to the emergency procedures which may be necessary in the proper surgical control of acute perforation or massive hemorrhage, there is almost always sufficient time to improve to an optimal level the nutritional status of patients who need an operation for pyloric obstruction, for repeated hemorrhages during an inactive phase, or for intractable pain. The mortality in these procedures has been substantially lowered as a result of our better understanding of this problem. Studley years ago showed an increased risk in gastric operations upon patients who had lost considerable weight.[1] Usually it is a mistake to continue the average ulcer-type diet once the decision has been made to resort to surgery. Such diets may be low in protein and total calories, and it is desirable to increase the intake of both protein and calories to a maximum. Hypoproteinemia may be responsible for a variety of troublesome postoperative complications, including edema of the gastric wall and site of the anastamosis, retarded wound healing, and delayed gastric emptying. These patients often suffer as well from anemia of various degrees, and vitamin depletion.

In the unobstructed patient, a special diet high in protein, calories, and vitamins, can usually be taken by mouth over a sufficient period to insure restoration of deficiencies and weight gain. Anemia may require repeated blood transfusions.

The unobstructed patient, or the patient who for any reason cannot take sufficient nourishment in a regular diet, requires special management. Proteins and calories may be supplied largely by a liquid diet. It is often desirable to give in addition at least two liters of amigen per day in which a glucose concentration of 15 per cent provides additional calories. A gram of vitamin C should be given daily. If the patient has lost much weight from starvation, and is in very poor general condition, we have not hesitated to perform a high jejunostomy for feeding

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the patient directly by this means until his general nutrition has improved. It is possible to introduce about 1500 calories by this route, while the remainder is supplied parenterally. Skim milk, or homogenized whole milk, in amounts of 1000 to 1500 cc per 24-hour period are usually well tolerated. Additional protein or carbohydrate may be given to some patients, but will be followed by troublesome diarrhea in others.

Obstructed patients require special attention to the biochemical balance. If there has been vomiting, voluntary curtailment of fluid intake, or aspiration of gastric juice from the stomach, these fluids with their electrolyte content must be replaced. There is a normal daily requirement of 5 to 7 grams of sodium chloride, and to this must be added the amount lost in juices from the stomach, which is roughly equivalent to half-strength normal saline. If the patient requires intravenous fluids, it is well to use a 10 per cent glucose solution in order to supply extra calories.

Pyloric Obstruction: Formerly, it was the practice to perform a gastro-enterostomy in these patients, particularly in the older age groups. Although it was usually effective, failures with marginal ulceration at the anastamosis were not infrequent. We now realize the importance of considering the acid production of the stomach before deciding upon the best operation for any given patient. This may be done by determining the amount and acidity of the 12-hour nocturnal gastric secretion. If this is high in amount and acid, the acid factor must be controlled by some means at the time of surgery.



The type of surgical procedure employed, therefore, depends upon the age of the patient, his general condition, and the amount and acidity of the 12-hour nocturnal gastric secretion. In elderly, poor risk patients, without evidence of hypersecretion, a posterior gastro-enterostomy seems the safest and most satisfactory procedure. In the middle-age groups, we tend to control the acid factor by vagus resection, and accompany it with either a pyloroplasty or a posterior gastro-enterostomy. In the younger, good risk patients, we prefer a gastric resection, provided the stomach is not excessively dilated and the gastric wall edematous; if it is, vagus resection and pyloroplasty or posterior gastro-enterostomy is employed as in the middle-age group.

Intractable Pain. "Intractable pain," defined as pain which will not respond to medical treatment, has long been considered an indication for surgery. The criteria employed are extremely variable. The trend in recent years has been to insist that medical management, including bed rest, should have been tried one or more times in the past before operation is recommended. However, the occupation or economic status of some patients may not permit them to follow a strict medical program. Another group would rather eat, smoke and drink as they please, despite the pain, and may even suggest surgery at a risk they would gladly accept to avoid the dietary discipline of strict medical management. This is especially true today when the various lay magazines hail the merits of vagotomy. As a result, patients are in a receptive mood for surgery, and perhaps more operations than are justified are carried out. Furthermore, there is a temptation to recommend operation in certain individuals in whom the gastric diagnosis is not altogether clear, particularly psychoneurotics. Any surgical procedure recommended for this group of patients with intractable pain must effectively control the over-production of gastric juice of high acid values.

Gastric Resection. The operation of radical gastric resection (including at least 75 per cent of the stomach) has proved to be effective in rehabilitating the majority of patients who were previously ulcer invalids. Modern methods have gradually reduced the mortality rate until one commonly encounters series of cases with an operative mortality rate of less than 3 per cent. There may be, nevertheless, certain undesirable after-effects of radical gastrectomy, often more familiar to the physician who cares for the patient in the months after operation than to the operating surgeon. A proportion of patients fail to regain their preoperative weight, food capacity is reduced for a variable period, and some patients may exhibit unpleasant reactions to certain foods. The term "dumping syndrome" has been used to describe some of these undesirable symptoms. They commonly occur after a meal rich in carbohydrate, and often follow breakfast more frequently than other meals. In studying a group of these patients we found that they could be benefited by regulation

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of the carbohydrate intake, by emphasizing the addition of fats and protein, and by urging smaller and more frequent feedings.

Although the procedure has earned its place in the surgical treatment of ulcer, it is doubtful if the mortality figures in small community hospitals throughout the country are as satisfactory as the ones cited above, and this fact combined with the recent enthusiasm for vagus resection has no doubt played its part in decreasing the number of resections being carried out.

Vagus Resection. Reduced to its simplest terms, the rationale of vagus resection is as follows: (a) patients with duodenal ulcer in general have a greater output of gastric juice than normal individuals, and the acidity of the juice is greater than normal; (b) this increased acid secretion plays a fundamental role in the production of duodenal ulcer; (c) this abnormal increase in both acidity and amount is largely a result of cerebral hyperacitivity mediated through the vagus nerves; (d) division of the vagus nerves abolishes this "cephalic stimulation" of gastric secretion, reducing the amount and acidity of the secretion in ulcer patients, thus permitting the ulcer to heal.

It has been noted that there is often an immediate, striking relief of ulcer pain following vagus resection, probably due to the interruption of pain fibers carried in these nerves. Other physiological effects following vagus resection may be less desirable. There are frequently a transient diarrhea and a transient esophageal spasm, usually of no clinical consequence. Of greater import is a consistent, marked decrease in gastric motility, sufficient to aggravate any element of obstruction present at the site of the ulcer. As pyloroplasty or gastro-enterostomy has been used more and more as an adjunct to vagus resection, the disadvantages of gastric hypomotility and hypotonicity have been largely circumvented.

Vagus resection has been sufficiently utilized in the past few years to permit a limited evaluation. It is more widely used than any other operation today for ulcer with intractable pain. It should never be employed as the sole procedure if there is any evidence of pyloric obstruction. It is now recognized that a definite percentage of even those patients without clinical evidence of obstruction will require a secondary short-circuiting procedure to overcome gastric stasis and pyloric obstruction when the ulcer heals. The trend, therefore, is to perform a pyloroplasty or a gastro-enterostomy at the time of vagus resection in an increasing number of patients.

Vagus resection has probably had its best results in the treatment of marginal ulcer, following a preceding gastro-enterostomy or gastric resection. It offers a good prospect of cure, and a much lower mortality rate than the other more complicated procedures heretofore advocated.

There are insufficient long-term follow-ups to determine the final effectiveness of vagus resection when it is used in a patient whose chief problem is recurrent hemorrhage. It is, of course, unsuitable and illogical for use in an effort to control an active hemorrhage, which must be dealt with—if indicated—by direct control of the bleeding; nor in free perforation, which requires prompt closure. Finally, it offers nothing for the patient who suffers from a gastric neurosis of some type, but has no proved organic lesion. The strongest advocates of vagus resection urge extreme caution in using the operation for a psychoneurotic individual, even if he has a duodenal ulcer. Vagus resection is contra-indicated in gastric ulver, which is best treated by gastric resection in view of the danger of malignancy if the ulcer has failed to heal on medical management.

Before recommending a vagus resection, the physician should ask himself the following questions: (1) Has the patient received adequate medical care? The best results following vagus resection are those in patients in whom medical management has not controlled pain. The more severe the ulcer pain preoperatively, the more dramatic the effects of vagus resection. (2) Has the patient a recently proved duodenal or marginal ulcer? It is an absolute prerequisite to operation to prove the presence of an ulcer by a recent gastro-intestinal x-ray. The physician should not be tempted to recommend operation for a patient whose symptoms and response to medication simulate those of peptic ulcer, but in

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whom x-ray findings are consistently negative. (3) Is the 12-hour night secretion greater than normal in volume and acidity? This provides valuable information in the selection of cases for vagus resection, since this is the factor which will be directly affected by the operation. It may be necessary to aspirate the stomach for a twelve-hour period for several nights to determine accurate values. If the patient with a proved ulcer maintains a normal night secretion, the continuation of medical therapy rather than surgery must be considered. (4) Lastly, does the patient present any evidence of pyloric obstruction? The physician should weigh the data available from the history, the x-ray studies and gastric aspirations. As little as 5 to 10 per cent retention by x-ray may assume significance after operation. No doubt the subsequent healing of large active ulcers has played a significant role in the production of the troublesome postoperative complication of gastric retention. If there is any possibility of the existence or the development of obstruction, a pyloroplasty, a gastro-enterostomy, or gastric resection should be performed at the time of vagus resection.

Results of Vagus Resection at University Hospital. During the last 2½ years we have carried out vagus resection, either alone or with another gastric procedure, in 39 selected cases. Vagus resection alone was performed in 4 patients. One of these 4 has shown evidence of considerable gastric stasis and probably will require a secondary short-circuiting procedure. There were 21 patients who had a vagus resection combined with a posterior gastro-enterostomy. Although there were a number of troublesome complications during the early postoperative period, at the present time only one patient is regarded as an unsatisfactory result. More recently we have tended to use pyloroplasty instead of gastro-enterostomy, and have carried it out in 8 patients. It has been our impression that we have had fewer early postoperative complications in this group, and so far no case would be classed as an unsatisfactory result. Vagus resection was carried out with gastric resection in three patients and there was one death two weeks after operation from a plasma reaction. We utilized the procedure in three patients with marginal ulcer, and classed one patient as an unsatisfactory result. Although the clinical history and x-ray evidence suggested a marginal ulcer following gastric resection in this patient, we were unable to confirm a marginal ulcer at operation. It would appear that the symptoms of this patient were not the result of gastric pathology, and it is hardly fair to condemn the vagus section for the failure to control his distress.

At the present time our tendency is to combine vagus resection with pyloroplasty or gastro-enterostomy in the middle-age group and poor risk patients. Radical gastric resection is employed in the younger good risk patients having evidence of hyper-secretion, especially if repeated hemorrhage is the chief indication for surgery.

Vagus resection should not be attempted unless the surgeon is competent to obtain the necessary exposure and make certain that all vagal fibers have been divided. In 100 dissections in our clinic carried out at the autopsy table, it was confirmed that one or more definite trunks are present in each nerve at a distance of 2½ cm. adjacent to the diaphragm. If one of the smaller trunks is overlooked, the procedure is doomed to fail. There is probably greater danger of overlooking a second trunk on the posterior surface of the esophagus than on the anterior surface. Completeness of the vagus section can be tested by the so-called Hollander test. When fifteen or twenty units of insulin are given intravenously and the blood sugar level falls below 50 mgms. per cent, there is no secretory response of the stomach as shown by aspiration if all vagus fibers are divided. It is our feeling that this procedure is not without danger in older patients, for we have observed one patient who developed a cerebral thrombosis on the evening of the day this test was carried out. For that reason we have discontinued using this test in the older age group. In our series patients undergoing vagus resection have averaged a 12-hour nocturnal gastric secretion of more than 1,000 cc; postoperatively it has returned to nearly normal levels—400 to 500 cc.—evidencing control of the "cephalic" phase of secretion.

It must not be forgotten that the patient subjected to operation for a duodenal or marginal ulcer may have a second pathological process which may result in failure for operations designed to heal the ulcer. We have encountered two patients, one with duodenal ulcer and one with marginal ulcer following a gastro-enterostomy, whose symptoms simulating ulcer were so severe that they could not be controlled medically. At the time of operation after the vagus nerves were resected, a carcinoma of the body of the pancreas was discovered as part of the routine abdominal exploration. In both instances, the body and tail of the pancreas, along with the spleen were

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removed at a second operation. This emphasizes the importance of thoroughly examining the pancreas at the time of operation for ulcer. The true cause of the symptoms of these patients might have gone undiscovered, and persistent distress regarded as failures of the vagus section. These two patients are additional justification for the general trend of performing vagus resection through the abdomen rather than through the chest, permitting inspection of the ulcer site and of the upper abdomen generally. It is now generally felt that the vagus resection can be carried out as completely through the transabdominal approach, as through the thoracic approach which was first advocated.

GASTRIC ULCER

While the possibility of carcinoma practically never arises in the differential diagnosis of duodenal ulcer, it is a permanent consideration in gastric ulcer. This fact is responsible for the much higher incidence of surgical intervention in gastric ulcer, which may be as great as one patient in three. In general, it can be stated that ulcerations of the greater curvature should invariably be considered malignant and early resection advised. Likewise, prepyloric ulcer, particularly those within one inch of the pylorus, are more likely than not to be malignant. Lesions in this location should be subjected to early surgery rather than prolonged medical treatment. Large gastric ulcers in any location, especially if they are an inch or more in diameter, must always be viewed with suspicion. A trial period of strict medical management may be permissible for a small ulceration along the lesser curvature, to determine if the lesion is benign or malignant. All too frequently, however, a malignant ulceration will show a tendency to heal and the symptoms subside on strict medical management. The importance, therefore, of repeated examinations of the stomach at three week intervals cannot be overemphasized, lest on early carcinoma of the stomach be overlooked. The early surgical removal of gastric ulcerations in the danger zones is probably one of the best ways to lower the mortality now associated with gastric carcinoma.

There is general agreement that gastric resection is the operation of choice for any complication of gastric ulcer requiring surgery. Since the danger of malignancy is present in every gastric ulceration, it is usually advisable to carry out a radical procedure in order to remove the adjacent lymphatics as well as the omentum, although limited resections of benign lesions are attended by good results. Vagus resection is contraindicated.

CARCINOMA OF THE STOMACH

It is a sad and unfortunate fact that little progress has been made in the early liagnosis and curative treatment of gastric carcinoma. Although the recent advances in surgery have increased the percentage of resection lesions, and the extensiveness of such resections, the number of five-year survivals is discouraging. Even the large medical centers do not report more than seven five-year survivals per 100 people with proven carcinoma of the stomach. Considerable recent progress has been made by utilizing the thoracico-abdominal approach and permitting the removal of malignant lesions in the region of the fundus and the esophageal-gastric junction.

It is common today to perform a total resection of the stomach which usually includes the spleen and may include a portion of the pancreas, liver, large bowel, etc. The operative mortality from these extensive procedures has steadily decreased. We have one patient leading a perfectly normal life ten years after a total gastrectomy for carcinoma of the stomach. The segment of jejunum anastamosed to the esophagus gradually dilates, permitting the patient eventually to enjoy normal eating habits.

SUMMARY

The current trends in treatment of lesions of the stomach and duodenum have been reviewed. There is no one surgical procedure uniformly applicable to every patient with a duodenal ulcer which cannot be controlled by medical management. Although the results from the various surgical procedures are improving, they do not as yet justify a less careful selection of patients for operation. A high percentage (30%) of gastric ulcers require surgical intervention because of the danger of malignancy. The results in gastric carcinoma are still discouraging, although it is anticipated that the improved techniques of present day surgery will ultimately increase the number of 5 year survivals.

SYLVESTER G. VON ALMEN

Dr. Sylvester G. Von Almen, 72, El Paso physician and surgeon, died November 10 in a local hospital.

Retired since 1945, Dr. Von Almen opened offices in El Paso in 1920 following World War I during which he served in the Medical Corps with the rank of major. Previously he practiced medicine for several years in Clovis, N. M.

Dr. Von Almen was born in Peoria, Ill. He specialized in eye, ear, nose and throat practice and was for many years physician for the Santa Fe railroad. Dr. Von Almen was a member of the El Paso County Medical Society.

Survivors are a sister and several nieces and nephews, all of Peoria, Ill.

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Southwestern MEDICINE

OFFICIAL JOURNAL OF THE SOUTHWESTERN MEDICAL ASSOCIATION AND THE EL PASO COUNTY MEDICAL SOCIETY

January 1949

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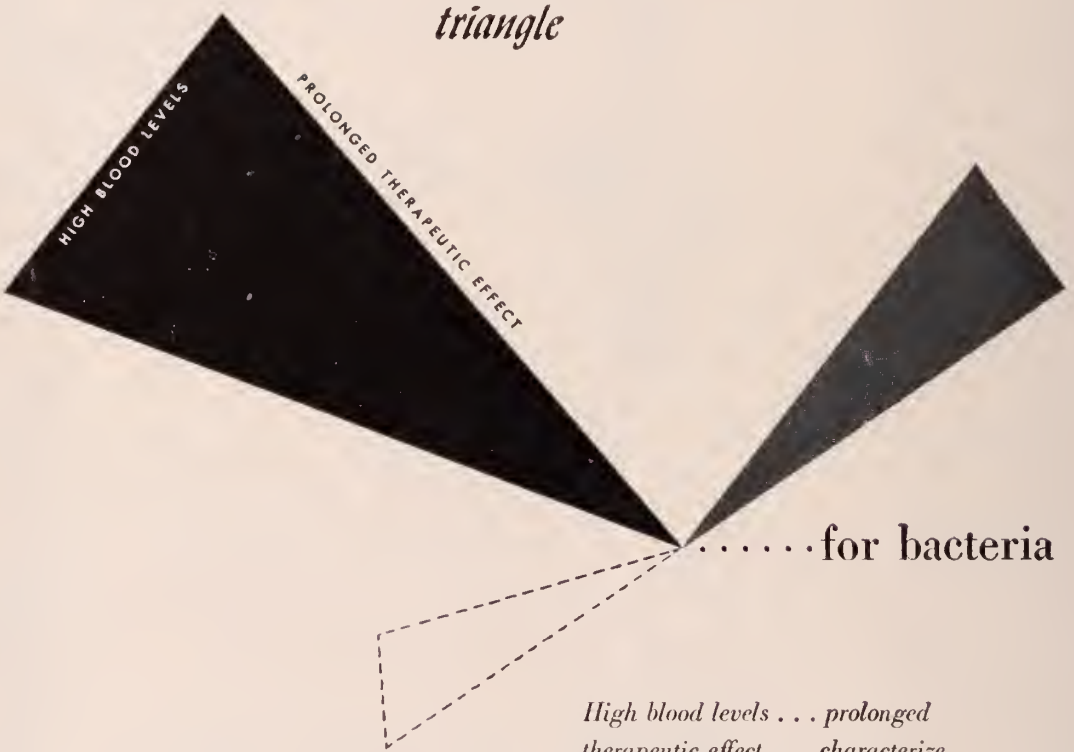
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Southwestern Medicine

Journal of
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EL PASO COUNTY MEDICAL SOCIETY

VOL. XXIX JANUARY, 1949 No. 1

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The Christmas Seal Campaign

The National Tuberculosis Association was founded in 1904. Since, in approximately one-half a century, the death rate from tuberculosis has declined at least 80 per cent, a saving of four million lives. A major effort toward the eradication of tuberculosis must be directed against that 50 per cent of cases which remain unnkown. These unknown cases constitute a reservoir of infection and are an ever present menace to the health of the populace.

This preventative phase is that in which the annual Christmas Seal Campaign plays a major role. For example, better than 80 per cent of the funds collected in this campaign remain in the community where collected, to be used locally for both therapeutic and preventative measures in the fight against tuberculosis.

One of the major functions is that of x-ray examination of the entire adult population. It would not be unreasonable to say that this offers the only solution to the problem of the unknown case. The local efforts have been directed towards mass x-ray examination, insofar as this is feasible.

It is also to be remembered that mass x-ray examination, as well as revealing the presence of tubercular infiltrates, may well also reveal the presence of other types of infiltrates, neoplastic disease, and certain cardiac configurations consistent with various types of heart disease. This one service in itself justifies the effort which has been concentrated on this very worthy campaign.

This campaign has been, and will be, supported actively by the physician, not only financially, but also professionally. The reading of the x-ray plates constitutes one of the many services which the medical profession as a whole renders to the community as a public service. When the x-ray plate is reported as being abnormal, the patient is referred to his or her personal physician.

This practice represents the ethical foundation upon which the practice of medicine is based. It cements the physician's and patient's relationship, so vital in the practice of good medicine. The perpetuation of the goal, that of eradication of tuberculosis, so eagerly sought by the proponents of the Christmas Seal Campaign, can only be realized by the co-operation of the medical profession.

Let all interested parties ask themselves the question:

Will we get this co-operation under the auspices of the proposed National Health Insurance Law (socialized medicine)?

It is doubtful that any bureaucracy could duplicate, in any sense, the progress toward eradication of tuberculosis that has been achieved by the National Tuberculosis Association. Surely, no person would by any means wish to jeopardize this progress. Let us keep this in mind in coming years. As the tiny Christmas Seal carries its message of hope to those suffering from the disease over this great land, remember that this insurance has been rendered by free and willing lay and professional workers, entirely by public contributions, and entirely without extraordinary aid of a political nature.

Dr. von Briesen Resigns

Wtih publication of our seventh issue and the first of the new year it is pertinent and proper that sincere thanks be extended to Dr. Delphin von Briesen who has felt it necessary to relinquish the editorship because of the heavy demands of his practice.

During his six months tenure Dr. von Briesen worked diligently to establish the journal as an interesting and informational publication. It is obvious from the rapid and heartening growth of SOUTHWESTERN MEDICINE and its acceptance among physicians throughout the Southwest that his efforts have produced results. Most certainly he has secured a place for SOUTHWESTERN MEDICINE in the field of medical journals; and, no matter how extensive our future growth and success, it can not be forgotten that Dr. von Briesen laid the groundwork. Meanwhile, he has consented to remain an associate editor so that his services and experience will not be lost to us entirely.

Legislative Epidemiology

Socialized medicine is fact, not theory, in England. The results of the practice of medicine as provided by the British National Health Service Act are beginning to formulate; and, as had been feared, are definitely retarding the progress of medicine and may well afford a means of inciting, perhaps, the reoccurrence of a devastating epidemic of small pox. Compulsory vaccination has ceased in England.

While perhaps compulsory vaccination was not as rigidly enforced as it should have been, the following figures, presented by Greenwood,[1] deserve close scrutiny. Between 1851 and 1880 more than 130,000 persons in England and Wales died of small pox, while in the next 30 years, there were only about 20,000. After this, only 407 died, and of these, only 21

were in the decennium of 1931 to 1940. These figures speak for themselves.

Greenwood further believes that behind the repeal of the compulsory vaccination law were two factors, the first being the fact that so few people under sixty had ever had any experience with small pox that they, in reality, knew nothing about it, and had truly a false sense of security. Secondly, that it has been proved that vaccination may have mortal consequences (postvaccinal encephalomyelitis).

Let us stop for a moment and consider that the term virus encephalitides is a collective term. It applies to all viruses and includes measles, mumps, influenza, antirabic treatment, as well as the tick and mosquito borne strains of virus, which perhaps may possess more neurotropic affinity than other viruses, with the exception of course of the strain or strains causing poliomyelitis. There is no doubt that the end of compulsory vaccination will be hailed as a victory by the various cults, antivivisectionists, and charlatans who have opposed the procedure for years.

Recently (1947) New York City was threatened with an outbreak of small pox. This was arrested by the vaccination of 6,350,000 people in less than a month. While it may be, perhaps, politically wise to arrest compulsory vaccination, surely it is not economically, or medically, wise to vaccinate over 6,000,000 people every time a single case of small pox breaks out. This is an excellent emergency measure but would be overwhelming as a routine measure.

England has political medicine. The United States as yet has not. But, the threat to our progress is great. The pendulum is swinging to the left. It is the duty of every practitioner of medicine to expend the utmost of his energy to stop this swing.

In the near future we will undoubtedly be called upon for both financial and verbal help to prevent the passage of an act in the United States similar to the British National Health Service Act now in force in England. This must become a primary duty to all of us interested in the practice of medicine. In discussing the proposed $3,500,000 fund promulgated by the American Medical Association to fight national health insurance, Oscar R. Ewing, Federal Security Administrator, made the following statement:

"It would be much better if the A.M.A. spent this 'educational fund' enlightening some of its own backward members."

Your editor would be indeed willing to accept his proportionate part of this money so that he might become enlightened, as Mr. Ewing puts it, if Mr. Ewing would accept an equal amount so that he might possibly study the problem of preventative medicine as applied to small pox, and read and digest that part of medical history which deals with the life and work of the illustrious Jenner.

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The Late Effect of Fractures About the Joints of the Lower Extremity

RALPH K. GHORMLEY, M. D.
Section on Orthopedic Surgery, Mayo Clinic, Rochester, Minnesota

In any consideration of fractures of the lower extremities, the question of damage to joints, either primary or secondary, is of the greatest importance. While such damage may not be obvious at first in some cases, in many it is obvious, and proper steps are taken to treat the fracture so as to reduce to a minimum the late changes which may result from such damage. In others, the damage is not so obvious



FIG. 1. Old fracture of the external tibial plateau with depression and widening of the surface.

and may not appear for months or even years after the inciting injury. Such changes are much more frequently seen in joints of the lower extremities owing, of course, to the important factor of weight bearing. The stresses and strains of weight bearing on the articular surfaces of the joints of the lower extremities are great, and when those articular surfaces are malaligned or damaged as a result of fracture, the wear and tear is certain to produce, in time, changes that may become painful and produce what is regarded as a traumatic arthritis.

HIP JOINT

The joints of the lower extremity are so made as to combine a maximal amount of stability with a maximal amount of mobility. The surfaces of the hip joint are so fitted together as to fulfill these conditions. The accurate manner in which the head of the femur fits into the acetabulum leaves little room for irregularities in either joint surface to go on without damaging the smooth surfaces of this joint. Hence, traumatic arthritis frequently develops in hips which have been the site of an injury, particularly such injuries as a fracture of the neck of the femur with a complicating aspetic necrosis of the head of the femur; also such fractures as "dashboard" fractures of the acetabulum, as well as all other serious fractures of the acetabulum, are certain to cause development of changes which will lead to a traumatic arthritis unless the most accurate type of reduction and repair is accomplished and the most careful follow-up treatment is carried out. Dislocations of the hip, which in many instances seem to regain function rapidly after reduction, are often the cause of late changes which may lead to a seriously disabling traumatic arthritis. Another type of injury which may lead to severe traumatic arthritis is the so-called infraction of the head of the femur. In this condition the articular surfaces of the head of the femur, as well as of the acetabulum, become severely traumatized. Secondary degenerative changes in the articular surfaces take place with fibrillation of the cartilage and eburnation of the bone where the articular cartilage becomes thickened. These changes are progressive, and with the irregularities set up on the articular surface by these changes, more severe erosion takes place and further damage results, thus a vicious circle is set up. The more aggravation this is given by excess usage of the joint, the more serious the damage to the joint.

THE KNEE JOINT

While the same factors of stress and strain that result in damage to the hip joint are present in the knee joint, the construction of the knee joint is such that much more latitude exists for sprains and injuries to occur without severe damage to the articular structures. Tears of the ligaments and sprains occur much more frequently in the knee joint than in the hip joint. The stability of the knee that results from accurate fitting together of the joint surfaces is much less than that of the hips; much of the stability of the knee joint is dependent upon its ligaments, whereas most of the stability of the hip is dependent on the accurate fitting of the femoral head into the acetabular cup. A painful traumatic arthritis is less likely to develop in an unstable hip though, in time, such a condition usually develops in either.

Most intra-articular fractures of the knee joint will, in time, lead to a certain amount of painful traumatic arthritis. The development of such a condition is in direct proportion to the amount of damage, to the

(Please turn page.)



FIG. 2. Same case as in Fig. 1. Knock-knee deformity of the left leg that developed as a result of the old fracture of the plateau.



FIG. 3. (A) Anteroposterior view of old trimalleolar fracture with tibiofibular and traumatic arthritis. (B) Lateral view showing tibio-astragalar arthritic changes. (C) Characteristic widening of the ankle joint with valgus deformity of the foot.

failure of complete reduction and to the amount of excess stresses and strains applied to the joint over the period of convalescence and afterward. Some of these fractures which are most important are fractures of the tibial spine, fractures of the tibial plateau, intra-articular fractures of the tibia as well as of the femur, and fractures of the condylar surfaces of the femur.

Fractures of the Spine of the Tibia.—In these fractures, it is important to get as accurate a replacement as possible in order to avoid any blocking of joint extension after healing takes place. Such reduction may be accomplished by gentle manipulative treatment, and if full extension of the joint can be demonstrated and the roentgenogram shows reduction of the fragment, satisfactory results will be obtained. In cases in which extension cannot be regained after manipulation, the joint should be opened and the fragment either reduced or removed, depending on whether satisfactory reposition and fixation can be obtained. It should be remembered that the attachment of the anterior crucial ligament to the spine of the tibia is damaged and that replacement of the fragment with healing will produce a much more useful knee. In cases in which accurate replacement is not accomplished or the fragment is not removed, repeated traumatisms to the articular surface from the impingement of the misplaced fragment will produce a traumatic arthritis which will cause symptoms and sometimes will become severely disabling.

Fractures of the tibial plateau (figs. 1 and 2) have become recognized as one of the more common types of fracture about the knee. In years past, this particular type of fracture either did not occur or, more likely, was not recognized. Often, too, roentgenograms failed to reveal the fracture, particularly if of mild degree. However, it is important to recognize all of these fractures, which can be done by carefully examining the knee for lateral instability and taking carefully centered and accurately exposed roentgenograms.

While many of the milder fractures of the plateau may be treated conservatively with fairly satisfactory results, it is the opinion of my colleagues and myself that in the more severe cases the fracture should be treated by open reduction. In many cases severe internal derangement takes place, with tears of the semilunar cartilages and marked disruption of the articular surface. The depression of the tibial plateau will produce an unstable knee joint which will lead to a definite knock-knee or bowleg deformity with disability and secondary traumatic arthritis. Besides exploration of the joint, care should be taken to elevate the plateau and, if necessary, to graft bone beneath the plateau to hold it in place.

Intra-articular fractures.—Intra-articular fractures of either the femur or tibia, in which longitudinal fractures entering the joint occur, are often accompanied by severe damage to the joint surface. The extent of this damage varies with the extent of the fracture ,the amount of comminution of the joint surface, and the amount of direct trauma to the articular surfaces. Often the fragments can be accurately brought together by open reduction and fixation, either with a lag screw or a bolt. It is our experience at the clinic that unless accurate reduction is accomplished, the late changes that result from these fractures will often lead to a traumatic arthritis which may require arthrodesis to relieve the pain.

Fractures of the Condyles.—Fractures of the femoral condyles, while less frequently seen than those of the tibial plateau, do occur and vary from small fracture sprains to complete fractures through one or both condyles. The amount of damage to the articular surfaces is dependent on the severity of the comminution of the condylar fragments.

Again, accurate reduction is essential to re-establish the joint contours as nearly as possible and to insure healing with as little disturbance as possible.

In some cases it may be necessary to reduce fragments entirely in order to minimize the amount of traumatic arthritis which may develop at a later date. In such instances, some degree of such change may occur because of the removal of the fragment or fragments. The skill and judgment of the surgeon is important in deciding when to remove such fragments. In cases in which reduction can be accomplished, it may be necessary to fix the fragment by internal means of various sorts to be sure of accurate healing.

FRACTURES ABOUT THE ANKLE

While fractures of one or both malleoli (Potts) and trimalleolar (Cotton's) fractures often are readily and easily reduced, it has been our experience at the clinic that enough of them produce troublesome late changes to call for a discussion of the subject here (fig. 3).

The tibio-astragalar joint has less latitude than the knee for mechanical derangements. Normal function of this joint depends on accurately fitted contours with smooth articular surfaces. The treatment of injuries of this joint is further complicated by the fact that the integrity of the tibiofibular ligaments, which hold the fibula to the tibia, is necessary to normal function of the joint. Tears of these ligaments are very important from the standpoint of producing instability of the joint; if such tears are unrecognized or if a strong union of the ligaments at the site of the tears fails to take place, the subluxation of the astragalus in the mortice will gradually lead to a traumatic arthritis which may produce severe disability. When fracture is accompanied by malunion or nonunion of one or both malleoli, the wear and tear on the articular surfaces becomes more severe and traumatic arthritis develops more rapidly than when good union occurs. In these cases, there is often a visible deformity of the ankle joint, usually a permanent valgus deformity. In persons who are overweight or who, when possible, actively use the ankle, the damage to the articular surface will occur more rapidly than otherwise.

In some instances, by means of osteotomy to correct the position of the malleoli or by screw transfixion of the fibula to the tibia, restoration of more nearly normal function may be made to take place and the danger of traumatic arthritis may be reduced or even done away with. In other cases in which such conservative types of operation cannot be accomplished, arthrodesis of the tibio-astragalar joint is often necessary in order to relieve the severely disabling pain which may accompany traumatic arthritis of this joint.

Fractures of the Astragalus.—Fracture of the astragalus is another type of lesion which may lead to painful arthritic changes in its contiguous joints. Besides the tibio-astragalar joint the subastragalar or astragalocalcaneal and astragaloscaphoid joints may be the site of a painful arthritis. When this condition develops in any of the contigous joints and becomes painful to the point of real disability, arthrodesis of the joints involved is usually the best treatment (fig. 4). Some patients may be able to get along with specially supported shoes and ankle supports, though most persons will not be content to wear such supports indefinitely.

Another complication, which may be seen in fractures of the astragalus and which may become important, is aseptic necrosis of the body of the astragalus. If this condition develops and care is not taken to prevent weight bearing until there is a full restoration of the circulation to that portion of the bone involved, severe painful arthritic changes in the adjacent joints may occur. Again, arthrodesis is probably the most effective treatment in such cases in which the pain is disabling. In some instances, panarthrodesis may be necessary.



FIG. 4. Old fracture of the head of the astragalus with astragaloscaphoid arthritic changes.

Fractures of Os Calcis.—This fracture has long been recognized by surgeons as one of those most often leading to a permanent disabiilty of some degree. Again the persistent pain and disability are, as a rule, due to changes in the articulations between the astragalus and os calcis. Accurate and complete restoration of these articular surfaces to normal, after fractures of the os calcis, is difficult and often impossible. Some degree of traumatic arthritis usually remains. Again, the latitude for irregularities in the joint surface to be tolerated is small, and because the entire body weight must be borne on these small joint surfaces with each step, pain usually develops.

Various methods of treatment have been devised to correct this complication without much success. In cases in which a persistent painful joint develops, some type of arthrodesis is necessary. Some feel that a simple arthrodesis of the astragalocalcaneal joint will be enough to relieve the pain. Others claim that it is necessary in all cases to fuse the astragaloscaphoid and calcaneocuboid joints, as well as the astragalocalcaneal joint, if satisfactory results are to be obtained. The question does not seem to have been

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settled, though the method of Gallie seems to be gaining in favor over older methods of arthrodesis.

CONCLUSION

The fact has been emphasized that in dealing with fractures involving the major joints of the lower extremities, the results from the standpoint of pain and disability may be disappointing. A more accurate reduction of the acute fracture may help prevent this in many cases but in others, the damage to the joint surface is such that it cannot be completely repaired, and a painful traumatic arthritis develops.

Read at the meeting of the Southwestern Medical Association, El Paso, Texas, October 28 to 30, 1948

Editorial Comment

This paper is of considerable interest from a number of standpoints. The author has pointed out the seriousness of fractures involving the major joints of the lower extremity. This should be brought to attention because it so often happens that the patient, extremely grateful for the immediate attention of the doctor and for what was taken to be an excellent anatomical result, later felt disgruntled because of the late, permanent disability which developed. What so often seems at first to be a good result later turns out to be a stiff and disabled joint due to traumatic arthritis. Although it used to be axiomatic that it is "impossible to mend a broken egg," some patients feel the doctor who repairs a fracture should be able to restore the neighboring joint to perfect function when this is frequently impossible. Since automobiles are again becoming plentiful and many models are developing more horsepower and more speed, the problem of the severely fractured joint is becoming more common as these fractures are seen relatively often in automobile wrecks. Although it would seem well to encourage the patient as to the outcome of his fracture during the early part of the treatment of the case, a guarded prognosis should be given later on in fractures involving the major joints.

The author has stressed the importance of obesity in the development of traumatic arthritis and this factor cannot be over emphasized. Dr. A. C. Ivey, the international authority on physiology at the University of Illinois has recently stressed the problem which we are going to encounter in the treatment of the aged individual in view of the increasing longevity of men. He has stressed the importance of caring for these old people ana the avoidance of obesity will certainly be a factor in their welfare. A slender, old person will have a much better chance of doing well following a joint fracture than an obese one. This applies also to those individuals in the younger age group but to lesser extent. Hypertrophic arthritis is a normal accompaniment of old age. If one adds to this a joint injury and then superimposes upon these two factors the factor of obesity, the impairment of joint function may be very great indeed.

It is interesting to note the gradual swing towards the operative treatment of many joint fractures in order to get better anatomical result. One of the reasons why so many more open reductions can be done with safety is the great reduction of the incidence of operative infection due to chemotherapy. This has almost revolutionized the practice of orthopedic surgery since World War II. A slightly malunited fracture is no longer permissible when with adequate open operative work at the beginning of the case it could be avoided. In fractures of the shajt of the long bones perfect anatomical reposition is not always necessary but in joint fractures such anatomical reposition is essential. Primary arthrodesis is not often indicated in a joint fracture but later on may be necessary. It must be stressed that a mal-union in a fracture extending into the joint is very difficult to correct satisfactorily with a late osteotomy or intra-articular surgery. The fracture must be treated properly in the first place. The author of this paper is to be congratulated on attaining excellent perspective and thoroughness in treating this difficult group of fractures.

LOUIS W. BRECK, M.D.

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HOTEL DIEU NURSING SCHOOL MARKS FIFTIETH YEAR



Participants in the Hotel Dieu School of Nursing fiftieth anniversary celebration are shown grouped around the cake bearing a model of the original nurses school. Standing in front, left to right, are: Mrs. Herman Loper, a recent alumnus and president of District No. 1 Nurses Association; Sister Mathilde, hospital administrator; Lt. Madge Minton, a recent alumnus; Miss Ota de Paul Thomas (in front of Lt. Minton), an alumnus and faculty member; Mrs. Earl Maxon, one of the school's early graduates; Dr. Paul Gallagher, chief of the surgical staff and son of Dr. F. W. Gallagher, the first chief of staff; Miss Ella Ringheisen, a 1921 alumnus; Dr. B. F. Stevens, a member of the staff and one of the school's early instructors; Mrs. Abby Carpenter, a 1915 alumnus; Dr. Will Rogers, a member of the staff; Mrs. Jean Rodehaver, a 1931 alumnus and current president of the alumni; Sister Paula, director of the school of nursing; and Miss Minnie Kerskie, alumnus of the class of 1905. In the background is the student choral group, flanked by four student nurses representing the first class, which graduated in 1902.

EDITOR'S NOTE: *There is a serious shortage of nurses in El Paso County and the Southwest in general. The shortage will grow more acute with realization of present plans to augment appreciably hospital bed capacity. Particularly because El Paso County has only one school for nurses it is fitting that this journal take note of the Golden Jubilee of the Hotel Dieu School of Nursing celebrated December 4 and 5. It is to be hoped that the interesting story of its founding will encourage other local and area hospitals to establish nursing schools.*

Hotel Dieu Hospital was founded in early 1892. At that time tubercular patients, who had come from all parts of the country, attracted by El Paso's magnificent climate, inhabited tents and shacks at the foot of Mount Franklin, then at the edge of town. At the suggestion of one of the early priests six Sisters of Charity came to the city to care for the patients.

Commenting on their arrival the El Paso Morning Times of February 3, 1892, said in part: "They are experienced and trained nurses, and for this reason the wealthy as well as the poor like to find a home with them when overtaken and prostrated by sickness. Their hospital deserves the support of the public because it is indeed the home of Charity."

The hospital was completed in January, 1894, and the School of Nursing was begun in 1898. The first class graduated four nurses. At this time a large percentage of the patients were tuberculous. Medical cases predominated, because surgery had not become widely used.

One of the nurses from an early Hotel Dieu class remembers that there were many cases of typhoid fever and very few maternity cases. To encourage hospitalization for the maternity patient a special rate of $15 a week, including a student special nurse was made available.

The early graduate also recalls that all of the doctors took a keen interest in instructing students. Dr. Francis W. Gallagher was chief of staff and Dr. Walter N. Vilas was chief of the surgical staff. Dr. Gallagher lectured on general medicine, ethics "and anything else in that line that he thought essential." Dr. Mellish, a former instructor at Rush Medical School and a leading surgeon, instructed the students in gynecology, obstetrics and chemistry. Dr. Vilas taught surgery. Dr. B. F. Stevens, currently practicing in El Paso, had just finished medical school and shortly after his arrival began to teach anatomy and physiology. A few years later, when the first X-ray machine brought to El Paso was installed, Dr. John W. Cathcart, then interning in Hotel Dieu, was placed in charge.

During World War I the school had approximately 25 student nurses. There was, however, very little easing of the rigorous schedule. Nurses were on duty from seven to seven; night nurses worked twelve hours, seven nights a week for a period of at least least two months. El Paso physicians lectured between seven and nine in the evening.

During the 1930's the hospital was continuously training 60 student nurses and this figure was doubled when the school was affiliated with the Cadet Corps.

A total of over 400 nurses have been graduated from Hotel Dieu School of Nursing. They are in service in many different parts of the world.

Today Hotel Dieu School of Nursing is gallantly conducting an unequal battle to provide trained nurses for the understaffed hospitals of the Southwest.

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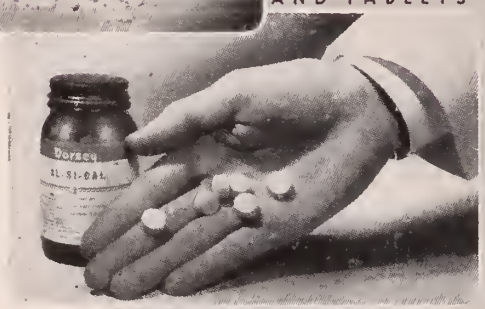
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SURGICAL TREATMENT OF HYPERTENSION

LEOPOLD VILLAREAL, M. D
EL PASO, TEXAS

Hypertension is a common symptom of several fundamentally different disorders. Page[1] has classified and listed some fifty of these under five headings: (1) Renal; (2) Cerebral; (3) Cardiovascular; (4) Endocrine; (5) Unknown.

The first four groups contain many generally recognized disease entities, such as chronic nephritis, chronic pyelonephritis, intracranial tumors, coarctation of the aorta, and tumors of the pituitary or adrenal glands. All of these conditions must be excluded before a diagnosis of essential or malignant hypertension can be made. The medical treatment of this last group, in the past, has consisted of rest, the use of sedatives, vasodilators, toxic depressants, and phychoanalytic sessions. It can be stated safely that none of these measures have ever cured or arrested the progress of the hypertension, although their temporary, palliative value, especially in the early stages cannot be questioned. The fact remains that cardiovascular-renal disease with hypertension as its dominant symptom stands first in the mortality list today and is responsible for more than half a million deaths annually in the United States. After the age of forty-five, the death rate from this disease is four times that of death from cancer, and twenty times that from tuberculosis and diabetes.

It is this last, or fifth, group which comprises the overwhelming majority of hypersensitive patients, about whose classification and treatment there is much disagreeement. The early surgical efforts of Italian surgeons, followed in this country by the pioneer work of Adson, Peet, Heuer, de Takats, Smithwick, and others, have given a great impetus to progress in the surgical therapy of hypertension. With increasing experience, certain fundamental questions regarding selection of cases and operative technique have become standardized. It is the purpose here to describe the classification, preoperative study, indications, and technique, and the early and late results in twenty-six cases. This topic is obviously controversial and leaves room for a great deal of discussion.

The basis of all classification is the concept of Keith, Wagener and Barker,[2] that hypertension, per se, causes increasing damage to cerebral, retinal, cardiac, and renal structures, and that the stage of the disease can be defined by the advancing damage in these organs. The classification of de Takats[3] is being used which consists of three groups instead of four in the basic classification. Group I is a combination of 1 and early 2 Wagener, Keith, and group III is a combination of late grade 3 and grade 4 of Keith. This is used because of the conviction that the malignant and premalignant phases of hypertension are not a surgical problem, and secondly because the grade 1 and early grade 2 of Keith give excellent operative results.

CLASSIFICATION OF GROUPS

GROUP I. Age below 40; minimal or no detectable organic damage; normal blood pressure on complete rest or barbiturates; casual diastolic blood pressures about 100 mn. Hg.

GROUP II. Age from 20 to 55 years; moderate vascular sclerosis in all organs; well demonstrable angiospasm; diastolic pressures cannot be lowered below 110 mn. Hg. by any method; rising diastolic pressure during the last six months.

GROUP III. Large recurrent retinal hemorrhages and exudates or papilloedema. High fixed diastolic pressure which cannot be lowered below 120 mn. Hg.; congestive or anginal heart failure; poor renal function; numerous cerebrovascular accidents, on actual malignant or premalignant state of hypertension with continuous maximal angiospasm not influenced by depressor stimuli.

All of these classifications are simply the expressions of the degree of organic vascular damage. Whether the hypertension is renal or non-renal does not find expression in these classifications. Since everyone is not yet ready to agree with de Takats and Fowler[4] that cases of renal hypertension, wherein the basic factor has been, or is, a pyelonephritis, streptococcal nephritis, etc., do better than the so-called neurogenic hypertension, which is considered the ideal case for sympathectomy by most of the men doing this work, it is felt that what is urgently needed is a separation of the renal from the non-renal factor. It is becoming obvious that both may operate in the same patient, in varying sequence and varying proportions. For practical purposes, neither the depressor effect of spinal anesthesia, nor that of the barbiturates has given a clear answer. Etaman will produce a fall in blood pressure, both in animals with Goldblatt clamps and in one with the moderator nerve sectioned. To further complicate the picture, we have both the pituitary cortico-adrenal mechanism, and the emotional element, or the personality factor, overlapping and influencing the so-called neurogenic type. It then becomes clear to the surgeon that in attempting to correct hypertension, he can, at best, hope to influence some of the factors. Sympathectomy as practiced today, if extensive enough, can diminish sympathetic-adrenal activity, inhibit renal spasm, and above all, diminish arteriolar tone. Certainly it does not affect the psyche, the parenchymal lesion in the kidney, and probably not the adrenal cortex. Therefore, in selecting cases, it is important to exclude those wherein the latter factors are predominant. This brings us up to:

Contraindications to Operation:

(1) Extensive organic damage to brain, retina, heart, or kidney. Persistent papilloedema and nitrogenous retention are absolute contraindications. A previous stroke or coronary occlusion is not necessarily considered as a contraindication.

(2) Mechanical obstruction to circulation. In this group is included coarctation of the aorta, or regurgitation, likewise the rigid sclerotic aorta, with the high pulse pressure and a high fixed diastolic pressure.

(3) Marked psychic involvement.

(4) Obvious pituitary-cortico adrenal activity. In the present state of knowledge, only radiation, or, possibly, a low sodium diet, may help.

Selection of Patients:

In order to evaluate properly the cerebral, cardiac, renal, and vascular status of each paient, the follow-

ing studies are needed in addition to a careful history and physical examination:

(1) Fundus examination
(2) Electrocardiogram
(3) Six foot Heart Plate
(4) Urine concentration test
(5) Urea Clearance
(6) Blood Urea Nitrogen Test
(7) N.P.N. and Creatinine Test
(8) Urinalysis

It is felt that patient should also have intravenous urography, and, if possible, a basal metabolism. And, finally, studies of the blood pressure at complete rest, under sodium amytal sedation, and, if necessary, Etamon, should be undertaken.

The rules laid down by Hinton and Lord[4] should be adhered to.

TABLE I.
DEFINITIONS

IN GENERAL IN ANY SYSTEM—
0 Normal.
1 plus Slight or mild changes.
2 plus Moderate changes.
3 plus Moderate changes.
4 plus Advanced or marked changes.

CEREBRAL—
0 No symptoms or signs.
1 plus Headaches and/or dizziness and nervousness.
2 plus Above, plus nosebleeds and/or occipital headaches.
3 plus Above, plus paresthesias.
4 plus Stroke or encephalopathy or confusion.

EYES—
0 Normal.
1 plus Arteriolar narrowing.
2 plus Above, and arteriovenous nicking.
3 plus Above, plus hemorrhages and exudates.
4 plus Above, plus papilloedema.

CARDIAC—
0 No symptoms or signs.
1 plus Slight symptoms and/or slight cardiac enlargement and slight electrocardiographic changes.
2 plus Moderate symptoms and/or moderate x-ray enlargement, and moderate electrocardiographic changes.
3 plus Marked symptoms and/or marked cardiac enlargement and marked electrocardiographic changes.
4 plus Coronary occlusion or congestive heart failure.

RENAL—
0 Normal.
1 plus Nocturia but concentration of 1.024 or more and urea clearance of 75% or more.
2 plus Urea clearance of 40-75%, concentration of 1.015-1.023.
3 plus Urea clearance of less than 40%, concentration less than 1.015, normal chemistry.
4 plus Persistent elevation of N.P.N. to 45 mgms. or more, and B.U.N. to 25 mgms. or more.

RULES

Contraindications to thorocolumbar sympathectomy:
1. 4 plus Renal.
2. 4 plus Cardiac in which congestive failure is unremitting, or if coronary occlusion has occurred within three months.
3. 4 plus Cerebral if confusion exists or if a stroke has occurred within three months.
4. If there are two 4 plus other than eyes.
5. If total count equals eleven or more pluses.

TREATMENT OF ESSENTIAL HYPERTENSION BY SYMPATHECTOMY

According to Peet[5] the possibility of a surgical approach to the problem of hypertension was suggested by Kraus to Brunning and published by the latter in 1923. In 1930 Pieri[6] actually performed a unilateral splanchnic resection for hypertension. In the same year Adson[6] approached the problem by laminectomy and anterior root section. Craig,[8] in 1934, reported a subdiaphragmatic exposure of the spanchnic nerves. Peet reported his procedure in 1935. Celiac ganglionectomy was advocated by Crile in 1936.

Sympathectomies in hypertension have undergone various changes in extensiveness in the past ten years. Today one may consider them all under five basic patterns:

1. Adson's and Chaig's technique removes through a retroperitoneal subdiaphragmatic exposure the major splanchnic nerve from the diaphragm to and including the tip of the celiac ganglion, together with the two upper lumbar ganglia. This procedure has been pretty well discarded.

2. Peet's technique consists of a supradiaphragmatic retropleural approach, done in one stage, and removing the splanchnic nerves and the sympathetic chain from the eighth to the twelfth dorsal segment inclusive.

3. Smithwick[7] combined the two approaches by the transdiaphragmatic route and removed the chain from the seventh dorsal to the first or second lumbar inclusive.

4. Hinton[9] advocates a transpleural approach and removes the chain from the third dorsal to the third lumbar segment.

5. Grimson[11] in his total sympathectomy removed the entire splanchnic and the sympathetic chain from the stellate to the fourth lumbar ,in two, three, or four stages.

Our personal experience with sympathectomy dates back ten years. In those years there has been the usual evolution, starting out with the Peet procedure and gradually adopting a more radical and far more complete denerviation of the sympathetic chain. Today a modification of the Smithwick procedure is being used, removing from the third dorsal through the third lumbar, bilaterally in two stages, one week apart. This extensive sympathectomy is made possible by utilizing a long hockey stick paravertebral incision, which goes transdiaphragmatically. Following the suggestion of Poppen[10] a paravertebral section of the eleventh and eighth ribs is done, and then the pleural fold is reflected forward, exposing the chain and resecting as much as is deemed necessary for the patient.

RESULTS AND POST-OPERATIVE COMPLICATIONS

Twenty-six cases of hypertension are being reported on who have undergone fifty-one sympathectomies, all with the same extensive technique. All have been done within the last three years. One death from a coronary thrombosis occurred after the first stage. There have been no postoperative uremias. No intrapleural complications have occurred in spite of the pleura having been torn in about twenty-five per cent of the cases. Intercostal neuralgias have been a real problem. Also the occurrence of a moderate back pain which seems to radiate to the retrosternal area. Postural hypotension is present if adequate denervation is carried out, but this is not disturbing after six or eight weeks. The subject of sterility in the male is important. It is felt that most hypertensives are impotent prior to the operation. However, the subject is not discussed unless the patient brings the point up, because of the psychic inhibition which is bound to occur. Likewise Helfrich and de Takats have presented evidence of motile spermatozoa being present after resection of the dorsal lumbar chain.

Results may best be shown by case presentations which have been picked at random.

Case 1.—Mrs. M.B.G., aged 42, with a history of nervousness, palpitations, and tachycardia. Severe headaches at times. Blood pressure of 250/130. Eye grounds were negative except for slight venous engorgement. Urine showed no albumen, red blood cells, or casts. N.P.N. was 32 mgms. Urea N., 15 mgm. Urea Clearance, 78% of normal. Chest plate showed slight hypertensive cardiac hypertrophy. EKG showed essentially normal findings. BMR, plus 5%. Under amytal sedation the blood pressure dropped to 160/90. A bilateral, two stage, transdiaphragmatic sympathectomy was done, and at two weeks, post-operative, blood pressure was recorded at 156/86. She had a marked, postural hypotension. She has been observed over a year and her blood pressure has never been recorded over 160/100. Feels perfectly well.

Case 2.—Mrs. H.F., aged 42, headaches for three years, both frontal and occipital. Blood pressure, 220/130; soft systolic murmur at apex and loud A-2. Eye grounds, grade two; N.P.N., 24; Blood Urea, 14; Creatinine, 0.84 mgm.; urine negative for albumen. Intravenous pyelogram showed pelvis of the right kidney to be dilated with a constriction at the ureteral-junction. EKG showed some left axis deviation; otherwise, no change. BMR was plus 15. Under sodium amytal her pressure dropped from 220/128 to 158/106. After these studies, it was decided to explore her right kidney, and an aberrant vessel which was found was divided. After three months she was re-evaluated. Her blood pressure was 228/120. Urea clearance showed 85% of normal. She concentrated to 1.023. N.P.N. was 23, and blood urea was 11.7. She was advised to have a sympathectomy performed, and this was done in two stages. She has now been observed for over two years. Her blood pressure, two weeks, post-operative, was 140/90, and it has remained at this level. The highest blood pressure recorded has been 144/90, and she has been entirely asymptomatic. There is a slight postural tachycardia.

CONCLUSIONS: In conclusion one might state that it is not intended that sympathectomy should be the treatment of choice in hypersensitive patients. Thoro-columbar sympathectomy, if extensive enough, has given good lasting results. Its permanent place in the therapy of hypertension must await the passage of time.

EDITORIAL COMMENT: *This paper was delivered before the El Paso County Medical Society, and was discussed freely. The results, as reported, are exceptional, but it must be remembered that these cases were rigidly selected, and it well may have been that certain cases, which would have been included in other reported series, were rejected because of the rigid criteria employed by the author. The length of time elapsed is not more than three years. It is hoped that the author will report his series again at a later date, thus giving some conclusions as to the permanency of the hypotensive effect.*

LESTER C. FEENER, M.D.

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Report on Revision of Constitution and By-Laws

(CONCLUDED)

PARAGRAPH 2. ARTICLE 2.

The Executive Committee shall appoint all committees not otherwise provided for in this constitution, including committees on nomination, membership, program, resolutions and necrology, as well as any special committees which may become necessary for the efficient work of the association.

Sec. 2. A committee on program shall be appointed by the Executive Committee. This Program Committee shall be charged with the full responsibility of the annual meeting and clinical conference. In conjunction with the entertaining society they shall determine the type of program to be given, and the scientific exhibits, the social entertainments, together with the participation of members of the entertaining society in the scientific program and clinical conferences, and any other matters connected with the annual meeting. They shall conduct correspondence with prospective speakers and arrange for their participation in the program. They may appoint committees for the different phases of the annual program, and with approval of the Executive Committee set a registration fee for the annual meeting, and the appropriation to be made by the association toward the expenses of such meeting.

The Program Committee will set the time to be allowed the different speakers on the program and notify them, the general rule being that papers will be limited to twenty minutes in presentation and discussion to five minutes. In cases of invited guests or papers of special interest, additional time may be allowed which will be indicated on the printed program.

Sec. 3. The Publication Committee shall be composed of the secretary and the two vice-presidents. They shall have charge of publishing the proceedings of the association, the papers, addresses and clinical discussions. With the approval of the Executive Committee, they shall arrange the amount to be paid SOUTHWESTERN MEDICINE for serving as the official organ of the association. They shall have charge of printing any documents, pamphlets or circulars necessary for the conduct of the association's affairs, including programs and other publications required by the annual or special meetings.

Sec. 4. On the first day of the annual meeting, or at some prior time, the Executive Committee shall announce a Committee on Nominations, composed of three active members in good standing. This committee shall study the needs of the association and the qualifications of the members and shall report one or more nominations for each of the offices to be filled at the annual election. This report will be made at the annual business meeting on the second day of the annual session and opportunity will then be given for nominations from the floor, following which the election will proceed in regular manner. The officers will take office the following day.

Sec. 5. A Committee on Necrology shall be appointed at or prior to the opening of the annual meeting. This committee will bring in appropriate resolutions regarding any deceased members of the association.

Sec. 6. On or before the first day of the annual meeting a Committee on Resolutions shall be appointed. To this committee will be referred any resolutions or recommendations regarding matters on which the voice of the association is desired. The committee is also charged with the duty of bringing resolutions upon any matters regarding which they themselves think the association should give expression. They shall make their report at the business meeting of the association.

ARTICLE 3. MEMBERSHIP

Sec. 1. Any regularly licensed physician who is a member in good standing of his county medical society who attends the annual meeting of the Southwestern Medical Association and pays his registration fee shall be a member for that year.

Sec. 2. Honorary members may be appointed at any annual meeting and shall require unanimous vote of those present to elect.

ARTICLE 4. MISCELLANEOUS

Sec. 1. All papers read before the association shall become its property to be published at the discretion of the Publication Committee, in its official journal.

Sec. 2. Twelve active members in good standing shall constitute a quorum for the transaction of

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business at any regular or special meeting of the association.

Sec. 3. Robert's Rules of Order shall govern all proceedings, unless otherwise provided for.

ARTICLE 5. AMENDMENTS

These by-laws may be amended or suspended at any business meeting by resolution and a two-thirds vote of those present, provided said amendments or suspensions are not in violation of the constitution.

National Heart Act

The 80th Congress enacted Public Law 655 known as the National Heart Act. By this act the U. S. Public Health Service was given authority to launch a full scale attack on cardiovascular diseases, the leading cause of death in the U. S.

Statistical studies reveal need for an all out effort to control cardiovascular diseases which account for one out of every three deaths. It is estimated about 60 million Americans now living will die of cardiovascular diseases unless new treatments and cures are discovered. The act provides funds for research, fellowships for training, and grants or aid designed to provide stimulation to local heart disease control programs.

Heart disease is a leading cause of death in the Southwest. The American Heart Association plans a campaign similar to that now being conducted by the National Tuberculosis Foundation for the eradication of tuberculosis. Supervised by the national group the campaign against cardiovascular diseases will be administered through the respective state groups, such as the Texas Heart Association, and their local agencies.

CHARLES PERCY BROWN

Dr. Charles Percy Brown, a co-founder of the Southwestern Medical Association, died November 20, in his home at 2900 Federal Street, El Paso. He was 73.

Dr. Brown and his brother, the late Dr. W. L. Brown, practiced jointly for many years and were instrumental in founding the old Southwestern Medical Society. Dr. C. P. Brown was secretary of the group for two years. He was also a member of El Paso County Medical Society and a captain in the Medical Corps during World War I.

Dr. Brown was born in Charleston, Illinois, in 1875. He graduated from the University of Iowa and from the Rush Medical School, University of Chicago, in 1902. With the exception of three months spent in Bisbee, Arizona, his entire practice was confined to El Paso.

Dr. Brown retired in 1946 following a leg amputation but would not be content with inactivity. He spent considerable time in charity work, particularly at the San Jose Clinic.

Dr. Brown is survived by his wife, Elizabeth Howell Brown.

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VOL. XXIX FEBRUARY, 1949 No. 2

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Lest We Forget

Modern medicine has made rapid strides. The demands upon the practitioner have become increasingly acute and complex. Specialization has increased, perhaps not wisely, but factually. We still, however, must remember that the general practitioner represents the first echelon of medical care, to which the patient turns when he falls ill. Nor can we allow ourselves to forget that medicine is not only a science, but an art as well.

The layman, while he realizes that medicine well may be making tremendous strides scientifically, feels perhaps that the art of medical practice is becoming lost in the face of increasing specialization. This has very recently been exemplified by the following editorial which appeared in the El Paso Times:

"The Changing Times"

"El Paso and the Valley lost two well known and loved doctors on Tuesday. They were Dr. Willis W. Waite and Dr. J. D. Love. The former was 72 years old and the latter 80. Both had lived among us for many years.

"The Times wishes to make no criticism of the modern methods of practicing medicine. The physicians know more about that than we do. But there has been a decided change in the last quarter of a century in relations between physicians and patients. Perhaps the physicians have become too busy to take time to chat with patients in a friendly manner and ask all about 'Cousin Sarah' or 'Uncle Mat' or 'Aunt Julia.' Today with a reception room filled with people, they have more than they can do. And few of them today take time to indulge in friendly gossip when they make home visits.

"Dr. Waite and Dr. Love belonged to the old school. In his latter years, Dr. Waite did most of his work in x-ray and other laboratory examinations, but he always had time to chat with patients who were inclined to chat. Dr. Love was an institution in El Paso and the Valley.

"Perhaps the change in the relations between physicians and patients is merely in keeping with the times. Perhaps all of us are living too fast and not taking time to enjoy the small, every-day things in life. The 'good old days' weren't so bad."

The medical profession today is engaged in a controversy which threatens the relationship between physician and patient, on which the art of medicine is based. As physicians, we must not lose sight of the fact that the patient is an individual, living and warm, and not simply a scientific curiosity; and, whether the case in hand is perplexing or not, we must exercise the greatest of care to assure the patient that we are interested in him as an individual, and not simply as a medical problem.

Oliver Wendell Holmes in a stanza of his poem, **The Morning Visit,** beautifully portrays the point which the El Paso Times editorial wished to make.

"And last, not least, in each perplexing case
Learn the sweet magic of a cheerful face;
Not always smiling, but at least serene,
When grief and anguish cloud the anxious scene,
Each look, each movement, every word and tone,
Should tell your patient that you are all his own:
Not the mere artist, purchased to attend,
But the warm, ready, self-forgetting friend,
Whose genial visit in itself combines
The best of cordials, tonics, anodynes. . . ."

The American Heart Association's Campaign for Funds

In 1948 the American Heart Association and its various state affiliates conducted a campaign to raise funds for study of the etiology and prevention of heart disease. This campaign was successful. For the ensuing year, 1949, the group's organization has been definitely improved and the campaign will be wholly comprehensive.

A national goal of $5,000,000 has been established and the various state affiliates will be assigned a quota. It is the duty of these affiliates to make every effort to raise their individual quotas.

According to a decision of the Assembly and Board of Directors of the American Heart Association at its annual meeting in Chicago last June, distribution of the funds raised by the local affiliates of the association in the 1949 campaign will be as follows: Seventy per cent to the local affiliates (e.g., the Texas or the proposed New Mexico Heart Association), and thirty per cent to the American Heart Association. A successful conclusion of the $5,000,000 national campaign will give $1,500,000 to the American Heart Association, and $3,500,000 to its local affiliates.

Of the lesser amount at least fifty per cent will be used to continue and expand vital research projects and to institute new projects in many important areas of cardiovascular disease. These projects will

be recommended by the Research Allocations Committee of the Scientific Council and approved by the Board of Directors. A local committee has for its function the integration of local facilities into an effective community cardiac program. This local committee also has responsibility for educating the community in the vital facts about the preservation of normal health and the care and treatment of disease of the heart and blood vessels.

It is recognized that research into heart disease is urgently needed. Dr. Tinsley Harrison, president of the American Heart Association, has invited applications for fellowships and research grants in the cardiovascular field. Application blanks for these grants are available from the association's medical director at its national office, 175 Broadway, New York 19, New York.

In discussing these research grants, Dr. Harrison said: "It is especially appropriate that these research grants and fellowships be made available at this time. Support for research into heart disease, the nation's leading cause of death, is one of the most important objectives of the national campaign we shall conduct next February. Ninety per cent of all heart disease is due to three major conditions: rheumatic fever, high blood pressure, and hardening of the arteries. Medical science does not yet know the causes of these conditions.

"Experience has shown that where the causes are made known, prevention and cure can follow. Scientific research is the answer. For that reason the ultimate aim of the American Heart Association is to develop a continuing nation-wide program of productive research within the broad field of diseases of the heart and blood vessels. Our research program will be closely co-ordinated with that of the National Heart Institute of the U. S. Public Health Service, and with the Life Insurance Medical Research Fund."

The campaign will be conducted on a national scale between February 7 and February 28, 1949. It is the duty of every practitioner of medicine to get solidly behind this campaign and make every effort to see that the quotas are raised. Disease of the cardiovascular system is not the problem of the cardiologist alone. It is the problem of the general practitioner and the surgeon as well. The advances in surgery of the heart and blood vessels made in the past decade have been brought about solely through the untiring efforts of both physicians interested in cardiovascular research and the practicing surgeons. The attack by surgeons upon lesions of the heart, congenital in origin, has been dramatic. Undoubtedly, such campaigns as will be instituted by the American Heart Association will bring about further surgical procedures which will rehabilitate many young cardiacs who now face a rather dismal future.

The local affiliates have extremely important functions. They must formulate a policy which will integrate local facilities in order that they function not only adequately but efficiently. These local facilities include medical, nursing, and social services, health and welfare agencies, hospitals, convalescent homes, educational and vocational training services. For example, the New England Heart Association has very recently instituted a committee known as the Penicillin Committee. This committee is supplied with funds to pay the cost of penicillin for needy patients with subacute bacterial endocarditis. This is only one of the many worthy projects which the local committee must by necessity institute.

Let us all place our shoulder to the wheel, and work and labor to complete successfully the aims of this campaign. Let us support our local heart associations by at least joining. Let us endeavor to convince our lay brothers of the necessity of this campaign so that we may continue the great progress which has been made in the study of cardiovascular disease in the past years.

Anatomy Drawings Released

Soon to be issued in book form are illustrations of anatomy and pathology prepared by Frank H. Netter, M.D. These full color drawings have been distributed to physicians for the last several years in portfolio form by Ciba Pharmaceutical Products, Inc.

While portfolios of new drawings will be issued from time to time, the current book will bring together those that were distributed up to January 1, 1948. The book will measure 9½ x 12½ inches and contain 224 pages, showing 191 of these anatomical charts printed in full color. It will be sold at a price to cover only the actual printing and binding costs.

The subjects covered in the book will be as follows: Lungs and Chest, Injuries to the Chest, the Esophagus, the Stomach, the Duodenum, the Small Intestine, the Colon, Injuries of the Abdomen, the Testicle, the Prostate, the Male Breast, the Female Breast, and the Heart and Aorta.

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THE MANAGEMENT OF BRONCHIECTASIS

CARLTON R. SOUDERS, M. D
Department of Internal Medicine, The Lahey Clinic, Boston, Massachusetts

After the diagnosis of bronchiectasis has been established the method of treatment must be chosen. However, experience with a large number of cases has made it apparent that a single therapeutic measure seldom produces satisfactory results and that all patients cannot be treated by the same means. The plan of therapy must be individualized or "tailor made" for the patient, taking into consideration all facts pertaining to the problem.

The first decision is whether or not surgery should be advised. Since medical measures never cure bronchiectasis in the anatomical sense but only cause more or less improvement in the symptoms, and, since surgical resection of all of the diseased lung can produce complete and permanent cure, the latter method is advisable if at all possible. Medical management must suffice if surgery is contraindicated.

INDICATIONS FOR SURGERY

The primary indications for surgical resection are enumerated in Table I.

TABLE I.
BRONCHIECTASIS
Indications for Surgical Resection

1. Younger age group
2. Unilateral disease
3. Good general health
4. Disease and symptoms severe enough
5. Vital capacity adequate
6. Frequent severe hemorrhage
7. No other serious disease to contraindicate
8. Future life expectancy and health expectancy of the patient warrants it
9. When surgery can eliminate all or almost all the disease

The exact age at which the surgical risk contraindicates the operation is impossible to define. Although children and persons under 30 respond best, most patients under 50 years of age do very well unless there are other complications, and recently people as old as 60 years have undergone operations quite safely. The incidence of complicating diseases and bilateral pulmonary involvement is greater in the older age groups and often influences the decision toward more conservative treatment.

Since it is possible to be rid of all the disease in a single operation if bronchiectasis is confined to one lung or one lobe, this type of case lends itself particularly to radical cure. Adequately good general health is desirable, of course, but it is important to distinguish ill health due to the effects of a chronic infected focus in the lung from such things as inadequate pulmonary ventilation, arteriosclerosis, coronary or renal disease. The former will be improved by operation, the latter are likely to cause disastrous complications.

The disease and the patient's symptoms both must be sufficiently severe to warrant the surgical procedure. Patients with minimal or no symptoms and only one or two small segments involved may not need operations. It is to be remembered, however, tha such patients, as a rule, eventually develop symptoms of repeated respiratory infections. Therefore, if as much as one lobe is involved and the disease even fairly severe, operation is desirable before the patient reaches the age of increased risk.

Bronchiectasis is a frequent cause of bleeding. The hemotypses characteristically are small but some patients are subject to massive hemorrhages hazardous to life. If bleeding episodes are severe or numerous, only surgical resection of the diseased area can remove this danger.

Whether by special tests or by clinical judgment, a careful estimate of a patient's respiratory capacity must be made before he is subject to surgery. It is ill advised to remove all the bronchiectasis if so doing will leave insufficient lung to maintain useful life. It is also unwise to remove any portion of one lung without removing all the disease in that lung. Failure to heed this precaution almost always is followed by an increase in bronchiectasis in the residual diseased area and a recrudescence of symptoms.

The association of some other severe disease may make it impossible to operate safely or in itself may endanger life and make the bronchiectasis of secondary importance. In this category are valvular or coronary heart disease, severe hypertension, nephritis, severe asthma or pulmonary emphysema, cancer in any part of the body, active tuberculosis, and brain abscess, to mention only a few of the commonly associated or unrelated conditions encountered.

Of equal importance is the stipulation that the patient's future life and health expectancy must justify the procedure. What value in curing the bronchiectasis if the patient has only a short while to live or will be so crippled from whatever cause as to prevent useful life?

Finally, an operation is indicated if it can eliminate all or nearly all the disease. Thus, if 70 per cent or more of the bronchiectasis is in one lung, removal of that portion may produce sufficient improvement in the symptoms to justify the procedure, even though a little disease remains on the other side. It is also indicated if the patient is young enough or in sufficiently good condition to warrant bilateral surgery.

INDICATIONS FOR MEDICAL TREATMENT

The indications for medical treatment (Table II) are essentially the contraindications to surgery or the converse of the above. They require little comment in addition to the previous discussion. It is justifiable to treat patients who have minimal symptoms medically for a sufficient period of time to evaluate the course of the disease. There are borderline and doubtful cases in which treating the associated bron-

TABLE II.
BRONCHIECTASIS
Indications for Medical Treatment

1. Older age group
2. Diffuse bilateral disease
3. Low vital capacity
4. Minimal symptoms
5. Symptoms of recent origin
6. Generally debilitated patient
7. Severe or dangerous associated or unrelated diseases

chitis gives relief from symptoms and further observation indicates that true bronchiectasis was not present. Similarly, after atelectasis, a recent pneumonia or the removal of a foreign body, there may be a moderate cylindrical dilatation of bronchi demonstrable by bronchograms which, if treated conservatively but vigorously, will subside and revert to normal size. Therefore, if symptoms are of only a few weeks' duration, such a possibility should be considered. Except for severe hemorrhage bronchiectasis is never an emergency.

Forms of medical treatment which have proved to be of value are listed in Table III. Patients with bronchiectasis harbor a chronic infection and so are subject to the depletions in energy, vitamins, iron, proteins, and so forth, which always accompany chronic infectious diseases. Increased hours of rest, a nutritious diet high in protein to replace protein lost in the sputum, vitamins in excess of the daily requirements in health, and iron in appropriate dosage may improve the patient's feeling of well-being appreciably and help him to combat the infection by his own powers of healing. In very severe cases or in ordinary cases after the exacerbation produced by an acute respiratory infection, complete bed rest may be indicated. A change of jobs from a heavy to a lighter form of employment is often helpful. In some cases where the appetite is poor and there is considerable debility, the addition of protein supplements may boost the protein intake to the desired level. No one vitamin is better than another but the usual commercial polyvitamin preparations are used. Some patients are actually anemic, most have depletion of iron storage even if peripheral blood levels of hemoglobin are within normal limits. Ferrous sulfate in daily doses of 12 to 20 grains is usually effective and well tolerated.

In accord with good medical or surgical principles, drainage of pus is always desirable. This can be accomplished only by inverting the patient so that secretions retained in the depth of the bronchiectatic lung are spilled out by gravity. A facedown position with head, shoulders and thorax over the side of the bed and legs and buttocks uppermost is ideal for most patients but trial and error will soon determine whether a turn to the right or left or some other position is even more effective. This posture is continued for ten minutes at a time, and efforts are made to cough and raise the sputum. The entire procedure is at first repeated four times daily, then either increased or decreased depending upon how much sputum is obtained. It should be possible for the patient to do all of his coughing at these appointed times and not to find it necessary at other times. Most persons who practice postural drainage thoroughly report prompt reduction in the amount of sputum and an increase in energy and well-being. Sputum varies greatly but is often thick, sticky and hard to raise. Expectorants are helpful in correcting this situation. Many drugs may be useful but potassium iodide is better than most when given in doses of 10 drops of saturated solution in water or milk three times daily. The result is usually a thinner, more watery sputum requiring less effort to bring up. Paradoxically, the amount of sputum sometimes seems to decrease on this medication, a result possibly explained by the fact that this watery secretion can be removed by normal ciliary action of the tracheal and bronchial mucosa and does not require cough to aid in discharge from the respiratory passages.

TABLE III.
BRONCHIECTASIS
Medical Treatment of Bronchiectasis

1. Rest
2. Nutrition
3. Vitamins
4. Iron
5. Postural drainage
6. Expectorants
7. Antibiotics
   - Sulfadiazine
   - Penicillin
   - Streptomycin
8. Allergic management
9. Vaccines
10. Treatment of sinus disease
11. Climate

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USE OF ANTIBIOTICS

The use of antibiotics has, of course, followed the development of each new type of antibacterial drug. All have been of some use. Sulfadiazine is still of value in many cases because of the simplicity and ease with which it can be taken by the patient at home. Occasional reactions of minor or more serious nature and the fact that it does not inhibit all bacteria prevent its general use. Penicillin has proved safer and more effective. It can be given by mouth although this is the least effective method. In serious cases or hospitalized patients, intramuscularly injected penicillin is used. In both ambulatory and hospitalized patients the inhalation of an aerosol or more recently the penicillin powder or "dust" has been used.[1] Dosages should be adequate, 300,000 units or more daily by injection, 25,000 to 50,000 units of a nebulized aerosol five or more times a day by inhalation, or 100,000 units of powdered penicillin inhaled two or three times a day. If improvement is

to occur it will come within seven to ten days and will be manifested by reduction in the amount of sputum which will be thinner and lighter. This will be accompanied by a general feeling of better health. In some cases it is then wise to discontinue the drug, resuming it at the first occurrence of a respiratory infection. Other patients seem to do best on a maintenance dose or prophylactic use of the inhalations once a day or two to three times a week.

Since bronchiectasis is always a mixed infection, some bacteria will be found which are penicillin-resistant. As the more sensitive ones are inhibited these resistant strains may multiply and allow recurrence of symptoms or persistence of sputum in large amounts. In these cases streptomycin may be effective and can be used in doses of ½ gm. intramuscularly four to six times a day. The combined use of the two drugs is often advantageous.

An allergic individual usually reacts excessively and with prolonged symptoms to any respiratory infection. Bronchiectasis is no exception to this rule even though allergy has nothing to do with the etiology of the disease. Disregard of the allergic factor may cause failure in an otherwise well-handled case. If, therefore, there is any evidence of personal or family allergy, appropriate skin tests are done and measures undertaken to eliminate the allergens from the environment or to desensitize if advisable. Vaccines seem to work best in this group of patients, either autogenous vaccines made from the bacteria isolated from the patient's own sputum or a commercial respiratory vaccine.

Sinus disease when present should be thoroughly treated, by conservative methods when this suffices, by radical surgery when necessary. It is usually desirable to do radical sinus operation before pulmonary resection, thus avoiding the possibility of a flare-up of sinus infection immediately after operation.

Finally, a word might be said for the beneficial effect of change of climate. No matter how salubrious, there is no climate which in itself will cure bronchiectasis. Yet, as has been frequently pointed out, recurring respiratory infections always cause flare-ups in patients with bronchiectasis and if these can be avoided, symptoms will be less severe. Therefore, a warm, dry climate with plenty of sunshine and few changes in temperature, where respiratory infections are at a minimum, should prove ideal. Such conditions are found in the southwestern part of the United States. Many patients who are economically able to make the change are helped by moving to that area permanently or at least during the winter months.

In addition to patients who are treated entirely by medical means, the above measures are useful in the preoperative and postoperative care of bronchiectatic patients treated surgically so it becomes apparent that it is necessary to combine a number of therapeutic methods in handling any one case. Except for those cases radically cured by surgical resection, patients with bronchiectasis must be taught how to live with, control and master their disease.

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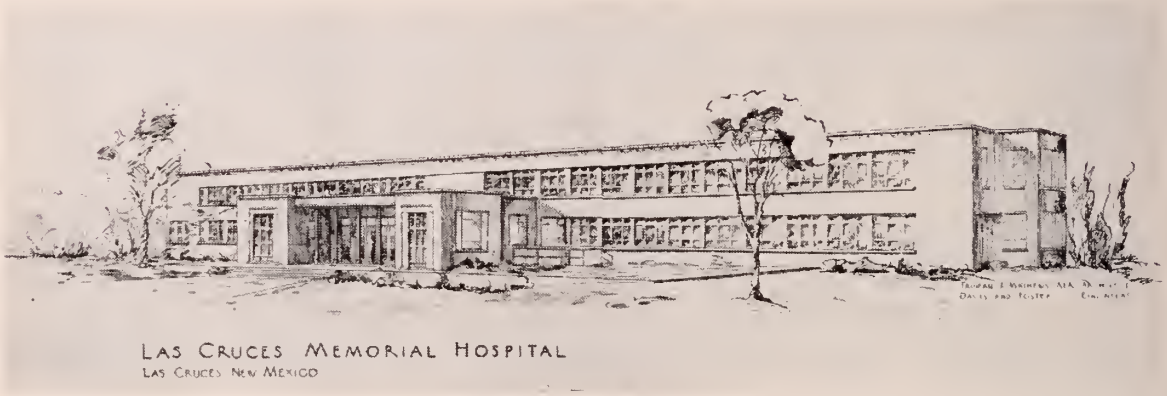
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(Also See Illustration on Page Thirty-six)

During the past decade the medical profession and business interests in Las Cruces, New Mexico, have considered, at various times, the feasibility of obtaining more hospital beds for the city and its surrounding territory. Like the Southwest in general, Las Cruces has increased in population, and with an augmented citizenry has come an expanded trade area. The trade area today includes an estimated population of 45,000 to 60,000 people. A trade area of this size requires 150 available hospital beds.

The McBride Hospital as originally designed provided only 17 beds and later was increased to 24 beds. Realization of the inadequacy became acute. Geographically, Las Cruces is situated at the intersection of three major highways. The traumatic work alone is sufficient at times to overcrowd the small bed capacity of the local hospital. The overflow could not be accommodated in El Paso because that city lacks bed capacity sufficient to supply its own needs and is similarly faced with the problem of expanding hospital capacity and facilities.

Accordingly, in April, 1946, Mayor-Elect Sam Klein of Las Cruces called together representative citizens of both the professions and business. At this meeting the equipment of the Masonic Hospital and Nurses' Home of El Paso was purchased and stored in Las Cruces for future use.

During the next two years the project gained support and the citizens of Las Cruces voted a sufficient bond issue. Federal aid was also sought and obtained. Today, by virtue of their efficiency and tenacity, the citizens of Las Cruces have realized their aim: Ground has been broken and the foundation laid for a thoroughly modern, 100 bed, general hospital. With the wisdom of foresight the Hospital Board has so planned the institution that bed space may be added if that becomes necessary without fundamentally changing the design of the hospital.

The hospital is air conditioned throughout. Bed space is divided into thirds; one-third devoted to four-bed wards, the second third devoted to two-bed wards, and the remaining third to private rooms. The operating, laboratory, and x-ray suites are entirely of modern design. A feature new to Southwestern hospitals, remote vocal control between the bedside and the nurse's station, is to be installed throughout the entire hospital. By this means the patient can talk to the nurse at her station at any time he sees fit. This will save many footsteps, and a great deal of time, and will promote more efficient and adequate care from the patient's standpoint.

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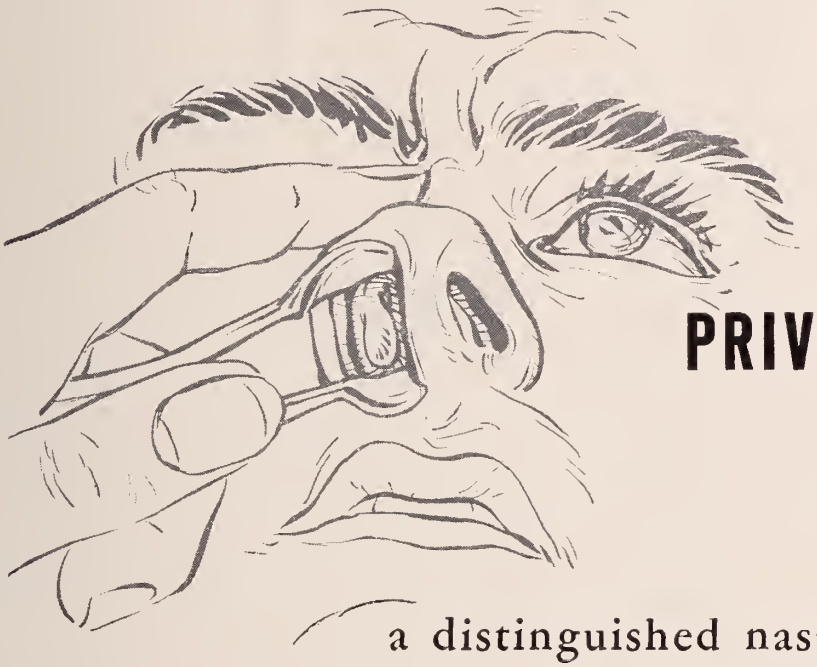
SOUTHWESTERN MEDICINE *extends its heartiest congratulations and best wishes to the Board of Directors and the Staff of the new Memorial Hospital in Las Cruces. It is hoped that other cities in this area will follow the splendid example which has been set and expand their bed capacity in a like manner. This can only be done, as has been exhibited in Las Cruces, by the close and unselfish co-operation of both business and professional groups working hand-in-hand.*

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RECURRENT VOLVULUS WITH AN UNUSUAL COMPLICATION

J LEIGHTON GREEN, M D, F A C S
EL PASO, TEXAS

This case of recurrent volvulus is considered worthy of reporting because of the following unusual features: (1) volvulus recurred in this patient on several occasions; (2) the mercury bulb, a part of the Cantor tube, had to be removed from the ileum by surgical procedure.

CASE REPORT
FIRST ADMISSION

History: C. M., a twelve year old Latin-American boy, was admitted to Southwestern General Hospital, January 21st, 1947, complaining of acute, fulminating abdominal pain. The past history revealed that he had had two previous admissions in the past month, the first because of an acute lymphocytic choriomengitis, and the second because of acute bacterial endocarditis. His past history was not remarkable with the exception of a statement by his parents that he had, at infrequent intervals in the past months, experienced episodes of transient acute abdominal pain. On admission to the hospital the patient's pain was epigastric in type, intermittent, severe, and accompanied by nausea and vomiting, and was said to have been present for the past twenty-four hours.

Physical examination revealed a rather thin, but essentially normally-developed boy, seriously ill. His abdomen was moderately distended, tympanitic throughout, but with no localized tenderness or definite mass. Auscultation revealed moderate borborygmus. Enemas were ineffective.

Laboratory Findings: A blood count showed 14,600 white blood cells with 80% neutrophiles, 4.2 million red blood cells with 80% hemoglobin.

A flat plate of the abdomen with the patient upright showed sufficient fluid levels and gaseous distention to justify a diagnosis of intestinal obstruction.

Clinical Course: Laparotomy through a lower right rectus incision was done on the day of his admission, January 21st. This was the first of a series of four operative procedures. Approximately two-thirds of the ileum was found collapsed. Proximal to this was a small area of ileum containing some gas. The cecum was freely mobile and was quite large. The entire colon was moderately distended. There was very little fluid in the peritoneal cavity. The entire intestinal tract was examined, but no obstructed area was found. Routine appendectomy was performed, and the abdomen closed without drainage. Post-operative diagnosis was volvulus of the intestine, spontaneously corrected.

Except for a tachycardia (rate 140 to 148) on the second and third days, post-operative, the convalescence was uneventful. The patient was discharged from the hospital on January 26th, the fifth post-operative day.

SECOND ADMISSION

Approximately six months later, on July 9, 1947, the boy was readmitted. About 6:00 P.M. on the previous day he had developed severe abdominal pain with vomiting. He was unable to retain any food. On admission he was fretful because of pain. He had the pale and pinched facies of an acutely-ill patient. His pulse rate was 140 and the volume only fair. The skin was dusky and dry. There was moderate distention of the abdomen. In the lower left quadrant of the abdomen was palpable a smooth, irregular mass, exquisitely tender. The mass extended from the suprapubic region almost to the left anterior superior iliac spine. There was moderate tympany. On auscultation, only slight borborygmus could be heard. Rectal examination revealed acute tenderness in the entire pelvis.

Laboratory Findings: White blood count was 14,900 with 84% neutrophiles. Red blood count was 4.75 million with a 95% hemoglobin.

A pre-operative diagnosis of intestinal obstruction with peritonitis was made, and surgical procedure was instituted for the second time, three hours after the patient's admission. The abdomen was opened again using a right rectus incision. A large amount of sero-sanguinous fluid was found in the peritoneal cavity. About twenty-four inches of ileum with its mesentery was black and gangrenous, its blood supply cut off by a twisted mesentery. This distended and gangrenous ileum formed a coiled mass in which were numerous adhesions. Several adhesive bands were drawn tightly across the root of the mesentery. The gangrenous portion of ileum extended to within about four inches of the ileocecal valve.

Resection of approximately twenty-four inches of ileum was done, and end-to-end anastomosis made. Sulfanilamide (10 Gm.) was placed in the peritoneal



Fig. 1. Cantor tube in the ileum.

cavity. A rubber tissue drain was left in the wound, down to the site of anastomosis. During the operation, 500 cc. of citrated blood was given by the intravenous route. Immediate post-operative condition was not good. Intravenous fluids and oxygen by nasal catheter improved the condition somewhat. Penicillin injections were begun, 25,000 units every three hours. On the evening of the operation, a Miller Abbott tube was inserted and continuous suction started. This tube worked well for awhile, then seemed ineffectual. X-ray on July 11th showed it looped down into the intestine with its tip back in the stomach. The tube was removed and a lead-tipped Wangensteen tube introduced on July 11th.

On July 13th, the fourth post-operative day, there was considerable distention. The general condition of the patient appeared improved, but his pulse was still rapid. He was receiving 4,000 cc. of fluids parenterally every twenty-four hours. Some protein hydrolysate was also given by the intravenous method. The Wangensteen tube was removed and a Cantor tube inserted, suction continued. Distention was soon relieved. That night several bowel movements occurred, and the abdomen became soft.

On July 21st, after 2,050,000 units had been given, penicillin was discontinued. Progress was satisfactory. On July 22nd, the thirteenth post-operative day, the Cantor tube was removed, but its mercury bulb was missing, cut off flush with the end of the tube. On July 23rd the rubber tissue drain was removed. The wound healed promptly. The patient was up in a chair on the 23rd. His temperature had not exceeded 100 after the third post-operative day. On the 24th, after being up two hours, he vomited and showed some distention. However, on July 26th he was discharged.



Fig. 2. Bulb containing mercury, in lower ileum.

X-ray examination at this time revealed the mercury bulb about at the site of the anastomosis. There was some distention of loops of ileum and some gas was noted in the colon.

INTERIM COURSE

The boy was observed in his home. His appetite was fair. He had recurrent attacks of vomiting and complained of slight recurring episodes of abdominal pain. The bowel movements were normal. Dr. M. O. Cantor, designer of the tube, in a personal communication gave assurance that the mercury bulb would pass through the intestinal tract.[1] But it did not. Various therapeutic procedures were instituted, such as purgatives, bulky diet, postural procedure. Indeed, all apparent means were used to effect the passage of the bulb, but proved unavailing. Repeated X-ray examinations showed the bulb still proximal to the ileocecal valve.

THIRD ADMISSION

On August 13th, 1947, one month after the Cantor tube had first been inserted, the patient was readmitted for surgical removal of the mercury bulb. His general condition appeared good. However, his red blood count had dropped to 3.81 million with a hemoglobin of 75%. The white blood count at this time was 10,700. Urinalysis revealed a trace of albumen and occasional granular casts. Examination of the abdomen showed a slight distention and moderate tympany, but no definite tenderness. Auscultation revealed active borborygmus. The healed operative scar on the abdomen showed a keloid tendency.

On August 14th, the third operation was performed. The scar was excised. The terminal ileum was found densely matted with adhesions about the site of the anastomosis. The descending colon was adherent in this region, and there were adhesions to the parietal peritoneum. The ileum was somewhat dilated proximal to the anastomosis, and in this sagging, dilated segment the mercury bulb could be palpated. Attempts to milk it into the cecum were unsuccessful. The ileum was therefore opened longitudinally, proximal to the anastomosis, and the mercury bulb removed. (The bulb was not distended, as had been suggested by both Harris[2] and Cantor. The rubber bag containing the mercury was intact. It had been sawed across at the neck, flush with the end of the intestinal tube, leaving the glued portion adherent to the tube, and the silk ligature still tying the neck of the bag.) The ileum was closed transversely. Sulfanilamide (5.0 Gm.) was left in the peritoneal cavity. The abdomen was closed without drainage. Transfusion of 500 cc. of citrated blood was given.

Penicillin therapy was again instituted post-operatively. Forty-eight hours after operation, the abdomen was soft, but the pulse rate was 130. A Miller-Abbott tube was inserted and suction started. Suction was continued for seventy-two hours, then omitted and the tube removed. On August 20th, sixth post-operative day, the patient was out of bed in a chair. The wound healed promptly. He was discharged in good condition on August 21st. He received 825,000 units of penicillin during this admission.

INTERIM COURSE

The boy was able to return to school. He had normal bowel function; his appetite was good, and he had no subjective symptoms referable to his abdo-

men. All went well for fourteen months. Then on October 12th, 1948, following participation in a football game, he developed sudden and acute abdominal pain.

FOURTH ADMISSION

The following day, October 13th, 1948, he was brought to the hospital by his mother with essentially the same picture of obstruction he had shown previously. He was obviously acutely ill, in excruciating pain. This pain was accompanied by vomiting. Physical examination revealed an acutely-tender, distended, and tympanitic abdomen. A mass could be seen and palpated in the left lower quadrant. Peristaltic waves were visible and were loud on auscultation. The white blood count at this time was 14,700, with 92% neutrophiles.

On October 13th, the day of admission, the fourth operation was performed. Numerous adhesions were found, and some dark serous fluid in the peritoneal cavity. A double loop of ileum was gangrenous, its mesentery twisted and bound with adhesions in approximately the same region as with the previous volvulus. Again twenty-four inches of ileum had to be removed. Resection had to be done close to the cecum, leaving insufficient ileum for an end-to-end anastomosis. Both ends of ileum were therefore closed, and the proximal end of the ileum was anastomosed to the ascending colon, side-to-side. A transfusion of 500 cc. of citrated blood was given during the operation.

The patient's post-operative course was not particularly stormy. He ran a pulse of 130 for seventy-two hours, and his temperature rose to 102 on the third day. Suction by means of the Miller-Abbott tube was again employed. On this admission he received 2,100,000 units of Duracillin. On the seventh post-operative day he was sent home by ambulance.

Final recheck on November 20th, 1948, found the boy to be in good health. He had no complaints. His appetite was excellent, and his bowel function was normal. During the period covered by this case report the patient had grown several inches in height. His physical examination at this time was unrevealing except for the presence of murmurs over the mitral area, the residuals of his previous endocardial lesion. There was no evidence of decompensation.

DISCUSSION

Volvulus always concerns the midgut; i. e., the alimentary tube from the duodenum to the midportion of the transverse colon. From the sixth to the tenth weeks of embryonic life, the alimenary tube grows faster than the celomic cavity, and a portion of the midgut protrudes out into the base of the umbilical cord, forming an omphalocele. At about the tenth week the peritoneal cavity grows at a greater rate and the midgut is withdrawn into it. As this recedes into the abdomen, it rotates in counterclockwise direction (as one faces the fetus). The terminal ileum, cecum, ascending colon, and transverse colon lie wholly in the left side of the abdomen. The cecum migrates across the upper abdomen and finally reaches the right lower quadrant. As this peritoneal rotation is completed, cecum and ascending colon become attached in the right side of the abdomen and the mesentery of the small bowel becomes attached to the posterior abdominal wall, from duodeno-jejunal junction to cecum. Anywhere along the way, rotation may stop. Such incomplete rotation is responsible for the condition of volvulus. An incompletely-anchored mesentery may give rise to volvulus of the entire midgut or a portion of it.

The effect of volvulus is (1) to angulate and obstruct the involved loop of intestine, and (2) to cut off blood supply from the mesentery. Infarction of the involved gut results. Such a twisting of the small bowel may occur intermittently, giving rise to symptoms of acute abdominal distress. With spontaneous righting or untwisting of the mesentery, symptoms disappear. Diarrhea and vomiting may occur. A patient, reported by Tiscenco,[3] had attacks of violent, intermittent abdominal pain lasting several days at a time, and accompanied by diarrhea. Diagnosis of volvulus was made by radiology, confirmed at operation. Children have been treated for food poisoning or intestinal flu because of abdominal pain, nausea, and vomiting due to volvulus. The attacks of abdominal pain which our patient had might well have been due to a partial, transient twisting, and he undoubtedly had a severe twist before the first operation. A

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case, reported by Ladd and Gross,[4] was treated for celiac disease for several monthe before operation discovered volvulus.

According to Emerson and Brenner,[5] volvulus of the small intestine is rare. Brenner[6] says that late cases, requiring resection, seldom survive. In some cases a two-stage operation is necessary, due to the poor condition of the patient. At times, simply relieving rotation of the intestine will be all that is required, but in such a case, one should examine the duodenum. In complete rotation, a band may persist across the duodenum, causing obstruction. Failure to find and remove this band has resulted in some fatalities.

At Children's Hospital, Boston, Mass., eight deaths were reported in thirty-five cases—most of them infants during the first three weeks of life.[7]

Intestinal intubation and suction undoubtedly played an important part in saving this patient. Various modifications of the Miller-Abbott tube have been devised. In 1928 Wilkins[8] used mercury in such a tube to help the descent of the tube. Harris in 1944 devised a mercury-tipped tube.[9] Cantor's modification appeared in 1946.[10] This intestinal tube, with a mercury bag attached to the end, has these advantages:

1. Ease of insertion. Fluidity of the mercury causes the tube practically to flow down the intestine.
2. The weight and cohesive power of the mercury help.
3. The mercury is innocuous in the intestinal tract and does no harm if spilled.
4. The Cantor tube is a large, single lumen tube, therefore more efficient than the double-lumen tube.

In his first 500 cases in which this tube was used, Cantor[1] had one case in which the mercury was spilled and was excreted, and two cases in which mercury and bag were excreted intact. He had no case similar to the case considered in this report. He advises using heavier rubber at the bulb neck.

Harris[2] had to perform an ileotomy to remove a distended mercury bulb. The bulb apparently had accumulated gas by osmosis.

SUMMARY

1. An unusual case is presented of volvulus occurring in a boy twelve years of age, for whom three laparatomies were necessitated by repeated attacks. In two instances resection of gangrenous ileum was done.
2. An additional operation was required in the same patient to remove the rubber bulb of mercury which became detached from a Cantor tube.
3. The etiology of volvulus is discussed.
4. Mercury-tipped intestinal tubes are discussed. They present advantages as well as minor dangers.

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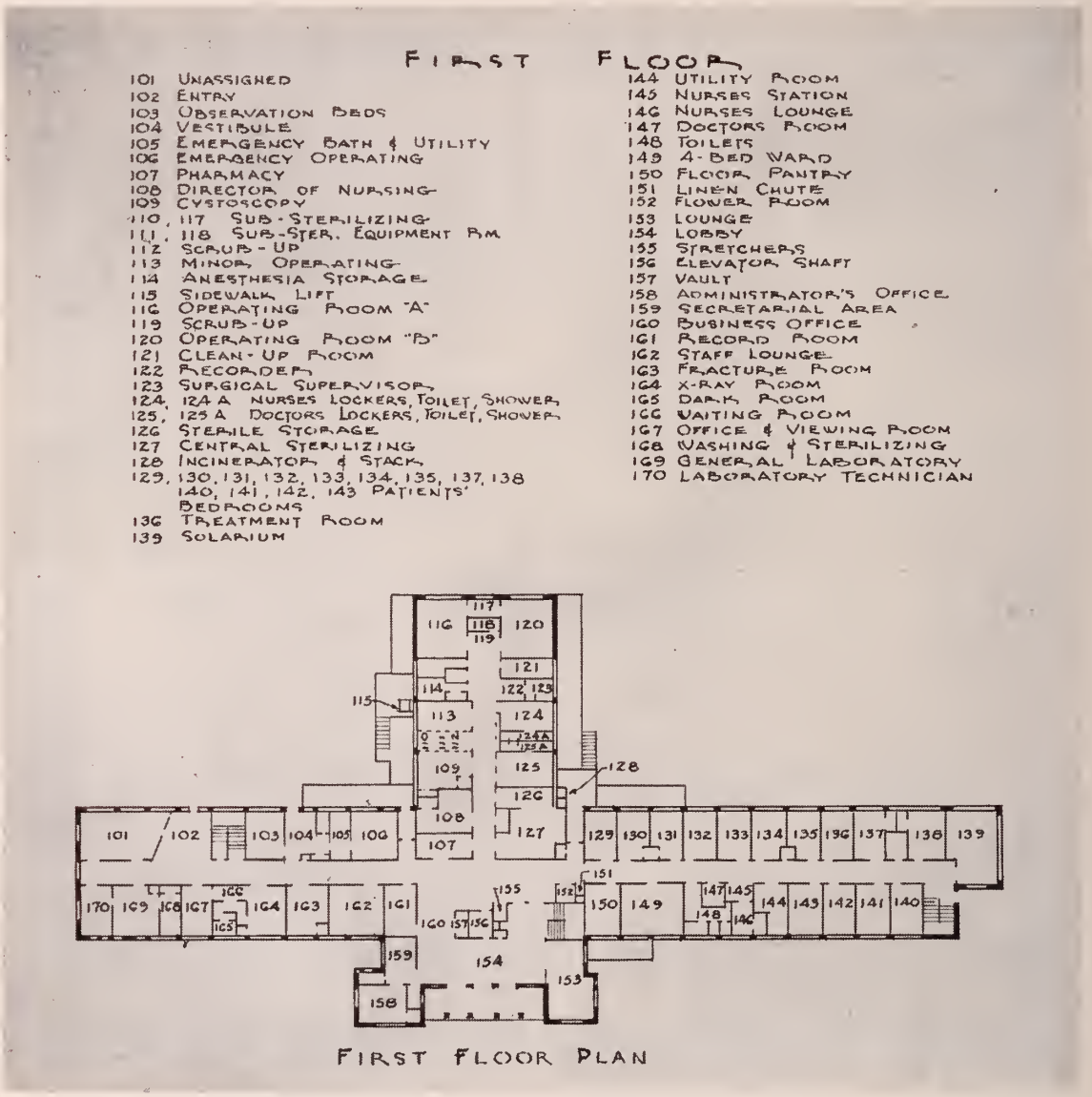
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First Floor Plan New Las Cruces Memorial Hospital

Sierra County Society Elects Officers

The final meeting of 1948 of the Sierra County Medical Society was held in Hot Springs, New Mexico, December 16. The following officers were elected: Dr. A. C. White, president; Dr. H. B. Johnson, vice-president; Dr. E. E. Hubble, secretary-treasurer. Dr. H. B. Johnson was named Corresponding Editor to SOUTHWESTERN MEDICINE. A scientific program featuring a moving picture film exhibiting the use of certain hemostatics in surgery was enjoyed.

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JEROME D. LOVE

Dr. Jerome D. Love, pioneer Southwestern physician and inventor of the first trailer hospital, died, December 14, at his home, 3101 Federal Street, in El Paso. He was 80 and had practiced medicine for 53 years.

A native of Russellville, Arkansas, Dr. Love received his medical degree from the University of Arkansas. He practiced in Lincoln County, N. M., and Thatcher, Arizona, before moving to El Paso in 1901.

Dr. Love conceived the idea of the first mobile hospital while recuperating from serious injuries sustained in an auto accident. Equipped for almost any emergency, the hospital was air conditioned and contained a portable x-ray machine, oxygen tanks, and surgical facilities. Power was supplied by a generator. Dr. Love received national recognition for his hospital, and, in 1939, addressed the National Congress of Obstetricians and Gynecologists in Cleveland, Ohio.

Dr. Love was married in 1902 to Ollie Payne, in Palmer, Texas. He was a 33rd degree Mason.

Survivors include his widow; a son, Frederick, Las Cruces, N. M.; a daughter, Mrs. Jerome Owen, El Paso; a sister, Mrs. Ida Jeffers, Dallas, Texas; and three grandchildren.

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WILLIS W. WAITE

Dr. Willis W. Waite, prominent Southwestern clinical pathologist and a past president of the El Paso County Medical Society, died, December 14, in an El Paso hospital. He was 72.

Dr. Waite came to El Paso from Syracuse, N. Y., where he was with the City Health Department.

He graduated from the University of Wisconsin and received his medical degree from Johns Hopkins, Baltimore, Md.

Dr. Waite did extensive research on cardiovascular diseases and was pathologist for El Paso City-County Hospital until the time of his death.

He was on the board of directors of Pilgrim Congregational Church. His wife, Adele Cook Waite, died in 1936.

Survivors include two sons, Willard of Oxnard, Calif., and Charles, Los Angeles, Calif.; two brothers, Edwin, Washington, D. C., and John, Waukesha, Wis.; a sister, Jesse Waite Kachel, Whitewater, Wis.; and three grandchildren.

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OFFICIAL JOURNAL OF THE SOUTHWESTERN MEDICAL ASSOCIATION AND THE EL PASO COUNTY MEDICAL SOCIETY

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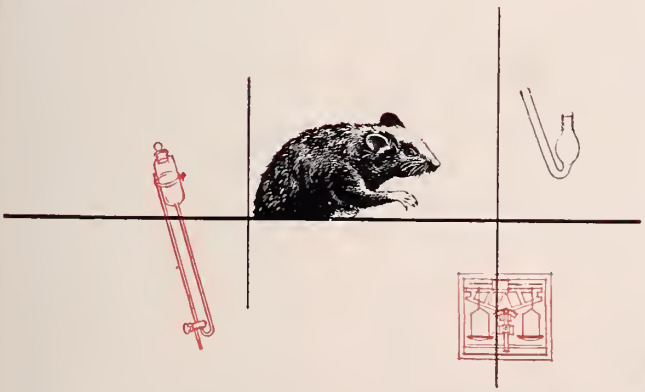
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March 1949

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VOL. XXIX MARCH, 1949 No. 3

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Five dollars per year 50c single copy

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The 'Why' Of Public Relations

There can be no doubt that the medical profession has made rapid strides in both clinical and scientific fields. This is an accepted fact, at least in the minds of every rational individual. Sad but true, this great profession is suffering and has suffered from inertia in-so-far as its relations to the public are concerned. The profession must acknowledge its blunders and its indifference to public opinion, and make a concentrated effort to wipe out these moth-eaten principles. We must attempt to make up in months for the years we have lost in the cultivation of public relations.

The medical profession must acknowledge and accept its role in the education of the public. When the physicians as a whole are faced with unfavorable publicity, this publicity can not be ignored. Senator Walter Tynan of San Antonio, Texas, has recently introduced the Minimum Standards Medical Bill in the state legislature.

Commenting on this bill, Hugh Warren, president of the State Chiropractic Institute, made the following statement:

"If they (the physicians) want to put chiropractors out of business, all they've got to do is get their patients well and we'll all starve to death. If they are so interested in protecting the public, why don't they stop taking a poor widow's money, bleeding her to death and then say there is no hope for her, or she needs a change of climate? Why don't they get on the stand and admit one of their members has been insane for years, and they have allowed him to operate on little children? Why do they wait until he has killed four or five people before they admit he has been insane? How many more are insane and won't admit it?"

Let us pause and consider who is going to read this. This is going to be read by the people who actually do the voting. Are we to continue to crawl into our shell and preserve our dignity, or shall we attempt to make some effort at least to defend our profession?

It will be of interest to many readers that in the state of New Mexico Representative John Coury of Santa Rosa, in discussing a measure to permit the practice of naturopathy, made the following comment:

"If the Lord Christ came to this earth to practice his healing art, the American Medical Association probably would have him thrown in jail."

This statement, of course, approaches absurdity. When The Resurrection occurs, it is doubtful that there will be any necessity for either the American Medical Association or the politicians. However, it must be recognized that the lay people will read this and accept it as, let us say, at least a witticism. It will be repeated at the ladies' bridge parties, and in the locker rooms. The profession will again consider an answer beneath its dignity.

It must be remembered that a newspaper is a business. It must show a profit. A certain percentage of its operating expense is derived from its advertising. Who advertises? Not the doctors, but the various charlatans and cultists. In order to combat the abuses heaped on the profession by the cultists, we must sacrifice certain of our cherished beliefs of other days. We must advertise ethically and in a dignified manner.

This may appear somewhat radical to our readers, but this fact is recognized throughout the United States. For example the NEW ENGLAND JOURNAL OF MEDICINE of January 20, 1949, under an editorial entitled "FISH OR CUT BAIT," says in part:

"The medical profession, which has made such impressive advances along clinical and scientific lines, must decide, and shortly, whether it has also the ability and the interest to maintain and control and modernize its own time-honored standards of service."

The El Paso Medical Society has for the past year employed professional public relations counsel, and in the present year will intensify its effort to improve its public relations. Each individual doctor can well ask himself, "What can I do to improve public relations and perpetuate the present standards of medical practice?"

This is best answered by NOT following the thirteen-point health program of Dr. Anthony B. Diepenbrock, of San Francisco, which he says "might be interesting to our colleagues":

1. Continue to sit on your fat derriere and do nothing.

2. Be apathetic and, like 5,000,000 registered Republican voters who failed to vote, do not bother to make your opinion known. If you think as they did, that your opinion or your vote is not worth anything, the opposition will agree with you and act accordingly, as they have.

3. Write an occasional letter to your congressman, tell him off, and then explain proudly to the interne in the surgical dressing rooms how smart you are and what a stinker your congressman is.

4. Tell everybody you see that the jig is up, and we might as well prepare for the inevitable.

5. Moan and groan and issue explosive and unprintable epithets.

6. Refer to your medical leadership as a group of impotent, ineffective and bumbling ignoramuses.

7. Make speeches before sympathetic lay audiences, and convert those who already believe in free enterprise.

8. Don't bother to tell your county society heads, your state society heads, or your national association heads, what you want them to do. Expect them to find a way for you without your guidance.

9. Scream about high medical society dues and forget that our friends in the trades unions demand many times what we pay; in other words, make the situation as difficult as possible, then grumble about it.

10. Oppose any program developed by the majority of your colleagues because it demonstrates your superior wit and your general greatness.

11. Remain superbly and learnedly dignified when Joe Doakes asks why you oppose state medicine. Brush him aside with any insult you can think of. Joe will like you for that.

12. Don't bother to use the selling methods which actually bring messages before the public. Continue to depend on occasional radio feature programs. Billboard advertising, newspaper advertising, national magazine advertising, radio advertising, and above all, continuous and daily spot programs over national hookups and all such like are too commercial, too troublesome, too expensive and too undiginified; don't use them.

Sierra Society Meets

The Sierra County Medical Society met Jan. 18 in the home of Dr. E. E. Hubble in Hot Springs, N. M. The 55 per cent county population response to the public health chest x-ray campaign was discussed. This constitutes a record for any New Mexico county.

Dr. Peavy of the Public Health Service explained the plan for financing the diagnosis and treatment of unreported cases of syphilis.

Dr. Fulwider presented the scientific program with a discussion of the pictures of some of the most interesting pathological specimens in his collection.

Members present were Drs. Cantrell, Hubble, Johnson, Minear, and Williams. Guests were Drs. Fulwider and Peavy.—H. B. JOHNSON, M. D.

Lecture Series At Lois Grunow Clinic

The staff of the Lois Grunow Memorial Clinic presented its third annual lecture series in medical sciences Feb. 24-26 at the clinic, 926 East McDowell Road, Phoenix, Ariz.

Guest speakers included:

John C. Jones, M. D., assistant professor of surgery (thoracic), University of Southern California, Los Angeles.

Kinsey Macleod Simonton, M. D., assistant professor of otolaryngology, Mayo Clinic, Rochester, Minn.

A. G. Bower, M. D., clinical professor of medicine, communicable diseases, University of Southern California, Los Angeles.

Joseph Boyes, M. D., plastic surgery of the hand, Los Angeles.—JOHN A. EISENBEISS, M. D.

Committeemen Named

Dr. J. Leighton Green, president of El Paso County Medical Society, has named 14 committeemen to function during 1949. The committees, with respective chairmen named first are:

Program: Drs. H. D. Garrett, D. M. Cameron and H. D. Hatfield.

Public Health and Legislation: Drs. E. W. Rheinheimer, W. E. Vandevere and A. P. Black.

Public Relations: Drs. W. W. Schuessler, Delphin von Briesen, J. D. Martin and Ralph Homan.

Cancer: Drs. R. J. Fuchlow, M. S. Hart, H. F. Heslington and Russell Deter.

Military Affairs: Drs. B. H. Cooley, Paul Gallagher, C. C. Boehler and W. M. Tubbs.

Hospital: Drs. H. H. Varner, F. P. Schuster, Branch Craige and C. C. Stapp.

Blood Bank: Drs. A. L. Perry, M. S. Hart, R. J. Cardwell and W. C. Basom.

Tuberculosis: Drs. Robert B. Homan, C. E. Egbert, J. W. Laws and R. J. Fuchlow.

Economic: Drs. M. P. Spearman, C. D. Awe, D. M. Cameron and H. J. Bell.

Milk: Drs. E. P. Jones and B. K. Byrne.

Turner Memorial Home: Drs. George Turner, J. J. Gorman, H. H. Varner and G. E. Carpenter.

Membership: Drs. F. P. Schuster, F. O. Barrett and Russell Holt.

Board of SOUTHWESTERN MEDICINE: Drs. L. W. Breck and L. M. Smith.

Nominating: Drs. H. H. Varner, J. J. Gorman and W. R. Curtis.

Book Review

AN INTRODUCTION TO MEDICAL MYCOLOGY. By Geo. M. Lewis, M. D., and Mary E. Hopper, M. S. Third Edition. Yearbook Publishers, Chicago.

This book, which is a product of years of study of pathogenic fungi and fungous diseases by two outstanding medical mycologists, one a clinician and the other a laboratory research worker, correlates the clinical, immunological, and laboratory data on this subject and places it at our disposal in a volume of 366 pages which the busy clinician or laboratory worker will find to be a valuable reference.

It is well illustrated with photographs of lesions, and of the gross and microscopic appearance of cultures of the various fungi.

The book contains a section on the non-pathogenic fungi which is valuable in the differentiation of these from fungi of etiological importance. Being of relatively small size, and very readable, it will be a distinct addition to the library of anyone who is interested in mycology.—LESLIE M. SMITH, M. D.

New Mexico Meeting, May 5-7

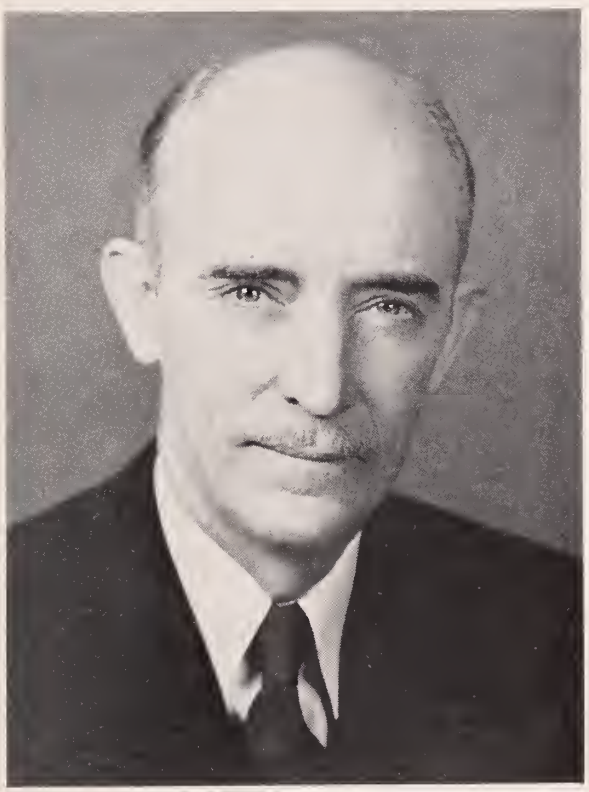
Programs are now being arranged for the New Mexico Medical Society's annual meeting, May 5-7 in the women's club building in Roswell. Information concerning the meeting may be obtained from Dr. Robert Boice, Second and Kentucky Streets; Dr. Van A. Odle, 506 North Richardson Avenue; and Dr. R. D. Haire, Jr., 706 West Second Street, all of Roswell—R. D. HAIRE, JR.

EL PASO COUNTY MEDICAL SOCIETY'S PUBLIC RELATIONS PROGRAM

The El Paso County Medical Society under the progressive leadership of its recently elected board of officers has initiated a medical public relations program which, it is hoped, will provide locally concrete and constructive answers to some of the problems currently confronting the profession.

The program is being directed by Dr. J. Leighton Green, the society's new president, along with an able staff of co-officers and a Public Relations Committee headed by Dr. W. W. Schuessler.

In addition to Dr. Green the society's officers for 1949 are Drs. Ralph H. Homan, president-elect; Maynard S. Hart, vice-president; and Celso C. Stapp, secretary-treasurer. Dr. Schuessler's committee consists of Drs. Delphin von Briesen, J. D. Martin and Ralph Homan.



DR. J. LEIGHTON GREEN

Dr. Green, who has practiced in El Paso since 1930, was born in Dardanelle, Ark., on May 29, 1899, and has lived in Texas since 1908. He attended high school at Cuero, Texas, then Austin College at Sherman, Texas, where he served in the Student Army Training Corps during World War I. He then attended Davidson College in North Carolina.

Dr. Green took his M. D. degree at Tulane University in 1928, and internship and residency at Charity Hospital in New Orleans.

He has practiced in El Paso since 1930 except for post-graduate work and service in the Army. He studied surgery and gynecology in London, Berlin and Vienna in 1932 and 1933.

During World War II Dr. Green served in the Army Medical Corps. For 22 months he was stationed in Brazil. For 18 of these months he was chief of surgery at 194th Station Hospital, Natal.

Dr. Green specializes in general and gynecological surgery.

He is a Fellow of the American College of Surgeons.

He is a former chief of staff of Hotel Dieu, Southwestern General Hospital, and El Paso City-County Hospital. Currently he is chairman of the board of El Paso City-County Hospital.

The El Paso County Society's public relations program ties in with recent creation of an A. M. A. committee "to guide a nation-wide plan of education on the progress of American medicine, the importance of the conservation of health and the advantages of the American system in securing a wide distribution of a high quality of medical care."

The program calls for publicizing constructive activities of the El Paso Society through all available media and particularly press and radio.

Special attention will be given to circumventing the efforts of groups attempting to place the medical practice in the United States in an unfavorable light.

Every support will be given to the battle against the encroachment of socialized medicine. Also every support will be given to passage of the "Minimum Standards Law," in the Texas legislature. This proposal, if passed, will be a long step in the running battle against charlatanism and quackery in the practice of the healing arts.

Besides publicity in news columns and on the radio, the El Paso County Medical Society is undertaking a carefully planned program of dignified institutional and educational advertising in El Paso's two daily newspapers.

Bi-weekly the Society will take space to point to some of the services it renders to the community. For instance the first notice pointed out that physicians' service at any hour is available to any resident, and that the Society maintains a physician's exchange and special phone to see that all requests for a doctor are answered swiftly.

A second notice calls attention to the extensive medical library which the Society maintains open to the public at 1301 Montana St.

A third notice will point out the tremendous function performed without charge by the members of the Society in the operations of El Paso City-County Hospital.

A fourth will call attention to the tumor clinic of El Paso County Medical Society which is a leader in the battle against cancer in the Southwest, without reward to any member of the Society.

The object of the Society campaign will be always to emphasize the important part the medical profession plays in the community, and the imperative need that its independence and integrity be protected from any and all political encroachments.

The Use Of Chemotherapeutic Agents In Obstetric Practice

By E. D. Plass, M. D.

Department of Obstetrics and Gynecology, State University of Iowa, Iowa City, Iowa

The introduction of chemotherapeutic agents has altered the treatment of certain obstetric conditions without materially changing fundamental concepts. It is yet too early to forecast the final status of even those products now available for wide clinical application, much less to prophesy what lies in the future, as new materials become available. Nevertheless, it appears that in some areas confusion and overenthusiasm are giving way to more rational thinking as the limitations of the new drugs are more generally recognized. On the other hand, the expense of chemotherapeutic attack, especially with penicillin and streptomycin, is raising a serious economic problem, while the effect of the agents upon pathogenic bacteria is causing certain fears among those interested in the more scientific phases of the problem.

Penicillin is the most popular of the chemotherapeutic drugs now available because, as Kolmer points out, it has a high affinity for pathogenic bacteria and very low toxicity for the human host. Experience has, however, shown that the viruses, rickettsiae, fungi, and parasites are generally resistant to its action, and that gram-negative bacteria commonly are unaffected. The bacteriostatic action of the drug is thought to be due to its interference with some vital intracellular enzymes, especially during the period of reproduction of sensitive organisms.

Penicillin-resistance is usually ascribed to the development of penicillinase by the resistant organisms — this enzyme breaking the penicillin down to some impotent fractions, but this is not necessarily the case. In some instances, resistance is attributed to the presence in a lesion of organisms of varying susceptibilities so that the drug destroys the more easily killed but increases the resistance of the others. Fortunately, there is little such natural resistance in the gonococcus and the group A hemolytic streptococcus, two important pathogens in obstetric practice, and in the spirochaeta pallidum. In contrast, the anaerobic hemolytic streptococcus, which is implicated in many puerperal and postabortal infections, is said to be 250 times as resistant as the aerobic variety. Staphylococci show variable properties, with 15 per cent of strains isolated from humans being unusually resistant. The colon bacillus is susceptible only to high concentration.

The question of the necessity for maintenance of high blood levels has never been answered completely, but there is a growing belief that it is not necessary in the presence of most pathogens so long as an adequate amount is injected every day. The total daily dose appears to be the important consideration. Wider appreciation of this concept, should it be finally confirmed, will reduce both the cost of administration, although not the cost of the drug, and the inconvenience to patients. With the production of preparations that are less rapidly absorbed, even those who still demand continuous significant blood levels can be satisfied with less frequent but larger doses.

In strictly obstetric practice, penicillin is usually administered intramuscularly or applied locally. Very rarely, in neglected patients, the intravenous route may be advisable.

Penicillin is known to pass the placenta, with the fetal blood concentration being approximately one-half that of the maternal blood. It appears, however, that it does not enter the amniotic fluid.

There is accumulated evidence that penicillin in large doses may stimulate uterine contractions and lead to premature termination of the pregnancy. Consequently, it is advisable to build up the dosage slowly over the first 48 hours of therapy, unless the intercurrent condition is sufficiently serious to warrant the risk of interruption.

It is in the field of uterine infections that penicillin apparently has its greater field of usefulness in spite of the fact that it is not uniformly effective. The majority of fatal puerperal fevers were formerly due to group A aerobic hemolytic streptococci which are ordinarily sensitive to this antibiotic. In the early enthusiasm for penicillin administration, it was frequently forgotten that the majority of minor febrile episodes following delivery are due to other, and usually non-sensitive, organisms, and that such infections are frequently self-limited. It is now more reasonable practice to withhold penicillin until it can be determined whether the infection is clinically significant and then to give full therapeutic doses together with proper supportive treatment. Generally speaking, if the temperature does not show a downward trend after 48 hours of treatment with adequate doses, there is little advantage in continuing the penicillin administration. It is estimated that approximately 90 per cent of severe puerperal streptococcic infections can be controlled. On the other hand, parametritis and thrombophlebitis, generally attributable to the anaerobic streptococcus, may develop even during the administration of penicillin.

Keettel, in our clinic, has used penicillin prophylactically in several hundred patients; alternate women serving as controls. Three hundred or six hundred thousand units were injected intramuscularly as soon as possible after the onset of labor and 300,000 units were given 24 hours later. When labor lasted for more than 24 hours, a second dose of 300,000 units was given 24 hours after the first. There was no reduction in one-day fevers, but fevers lasting more than 24 hours were reduced by 50 per cent, or more.

It appears also that penicillin given prophylactically before abdominal delivery reduces the hazard of infection and probably increases the scope of cesarean section, especially in the management of prolonged labor with or without early rupture of the membranes. Whether the protection thus offered justifies the use of other than the extra-peritoneal type of operation remains to be shown, but some groups are having seeming success with the low section in women thus protected.

The routine exhibition of penicillin in prolonged labor not only reduces the incidence of postpartum fever but evidently protects the child from infection and thus decreases the fetal risk especially from septicemia and pneumonia, the more serious sequels of amnionitis. Such prophylactic use of the drug is more advisable, when the membranes have ruptured prematurely, thus exposing the amnion to bacterial invasion from below.

Gonorrhea in the female is now best treated with penicillin although the sulfonamides are useful in selected

cases. The consensus favors the administration of 100,000 to 200,000 units of penicillin in one to four doses within 12 hours. Such a therapeutic regimen is effective in more than 90 per cent of all cases; and the occasional resistant patient can be given a second course of treatment with two or three times the original dosage. Larger initial doses are inadvisable because of the danger of concealing simultaneously acquired syphilis, since the drug may produce prompt healing of the primary lesion.

It is becoming increasingly evident that penicillin offers the best and safest method for treating syphilis during pregnancy, in spite of the increased likelihood of treatment reactions. There has been a tendency to give reduced doses during the first 24 to 48 hours in the hope of eliminating therapeutic shock, or Herxheimer reactions, but it now appears that there is little relation between the size of the initial doses, within any reasonable therapeutic range, and the incidence or severity of the reactions. The danger or premature interruption of the pregnancy is probably related to the appearance of the therapeutic reactions.

The minimal recommended dosage schedule offers 2,400,000 units distributed over eight days, but generally the total dose is double this amount in the same period of time. Apparently it is equally effective to give the proportionate daily dose in one or several intramuscular injections. The advisability of the simultaneous administration of arsenic or bismuth is still under debate, but many clinics give 40 mgm. mapharsen daily for the eight days of treatment.

Until recently, the majority of obstetricians and syphilologists have recommended antisyphilitic treatment during pregnancy for all women with histories of the disease, irrespective of previous therapy or the serologic reaction during gestation. At present, there is a growing tendency to assume that reversal of the serologic reaction resulting from earlier therapy means final and complete cure, and that consequently it is unnecessary to treat during pregnancy those women who have been made serologically negative by earlier treatment. This attitude involves the concept that modern therapy actually cures syphilis by eradicating all spirochetes rather than merely rendering them innocuous in the tissues. With penicillin as harmless to the pregnant woman as it evidently is, most obstetricians still feel that any patient with a history of syphilis should receive a course of injection during gestation. Time alone can decide which concept is correct.

The prevention of congenital infection, one of the primary objectives of the treatment of syphilitic pregnant women, is as effective under penicillin treatment as with the older forms of therapy. At least 95 per cent of the children of syphilitic mothers intensively treated during gestation will present no clinical or serologic evidence of intrauterine infection. Children of untreated syphilitic women born with congenital syphilis can be effectively treated with 20,000 units of penicillin per kg. of body weight intramuscularly every four hours for eight days.

Puerperal mastitis is usually caused by staphylococci which evidently gain access to the mammary gland through the lactiferous ducts. The infection ordinarily manifests itself after the first week of the puerperium by fever and localized induration and tenderness in the breast. Prompt treatment with penicillin (300,000 units every 24 hours) will usually abort the infection and prevent abscess development. Sulfadiazine (4.0 to 6.0 Gm. daily) orally will generally be equally effective, since it also is secreted by the mammary gland and is in position to attack the etiologic organism in the ducts. In spite of the fact that certain strains of staphylococci are relatively resistant to both penicillin and the sulfonamides, the concentrations of the two drugs in the milk are so high that few organisms can survive.

Breast abscess is best treated by dependent drainage (under general anesthesia) through a small incision combined with intramuscular injections of penicillin in full therapeutic dosage. Earlier attempts to treat such abscesses by aspiration of the pus through a large-bore needle and instillation into the cavity of penicillin solution were rarely successful, possibly because such a small puncture wound does not provide for discharge of the necrotic inflammatory lining of the cavity.

The rare cases of mastitis and breast abscess in the new-born can be treated effectively in the same fashion.

Penicillin ointment (200 to 2,000 or more units per gram of base) has been advocated in the treatment of cracked nipples. The apparent tendency of the custaneous application of this drug to invoke dermal sensitivity would appear to argue against its employment in a minor complication that can be attacked successfully by other measures.

Pyelitis, or pyelonephritis, in pregnancy and the puerperium is almost invariably caused by the colon bacillus. E. coli is recognized as being very resistant to the action of penicillin, but clinically the drug is effective when the organism inhabits the urinary tract. Since about 60 per cent of aqueous penicillin injected intramuscularly is excreted by the kidneys within the first hour, the concentration of the drug in the urine is much greater than that obtaining elsewhere in the body. The antibiotic should be given in large doses and continued until the temperature has been normal for 48 hours. It is probably also advisable to administer sufficient fluids to provide a good (2000 cc.) daily urinary output.

The occurrence during pregnancy of acute infections that ordinarily respond to penicillin calls for exhibition of the usual doses, except that in the less serious cases it may be advisable to raise the dose gradually over 24 to 36 hours to the desired level. Obviously, in serious intercurrent infections, the possible oxytocic action of the antibiotic must be ignored.

By reason of the fact that occasional patients with rheumatic cardiac disease develop bacterial endocarditis soon after delivery, some clinicians advise that all such women be given penicillin prophylactically in full doses for the first week or ten days of the puerperium. It is clearly impossible in a particular case to determine the value of such preventive therapy; only the statistical comparison of hundreds or thousands of patients so treated with an untreated group of equal size will answer the question.

Penicillin has been advocated as a substitute for the time-honored CREDE method of ophthalmic prophylaxis in the new-born, but sufficient data are not available to permit evaluation of its effectiveness. Four methods of administration are being used experimentally: (a) intrapartum intramuscular injections to the mother; (b) intramuscular injections to the child soon after birth; (c) instillation into the conjunctival sacs of aqueous solutions of 2,000 or more units per cubic centimeter; (d) insertion into the sacs of an ointment containing up to

100,000 units per gram in a water-soluble base. Our own experience suggests that the indirect attack through the mother may be the best, but more experience is needed before a sound opinion can be voiced. Many investigators doubt the need for a substitute for silver nitrate, which has proved safe, when properly administered, efficient, and inexpensive. Penicillin is so effective in gonococcic eye infections that prompt treatment after the diagnosis of gonorrheal ophthalmia has been made is almost uniformly successful in preventing serious damage to the eyes. In many states, silver nitrate is specified by law as the only acceptable prophylactic, and deviation from this practice puts a physician in a difficult legal situation if he institutes another type of prophylaxis.

In the presence of neonatal eye infections due to staphylococci and to inclusion bodies, penicillin has proved very effective when applied locally. Whether simultaneous intramuscular injections of the drug are advisable is doubtful. Incidentally, the fact that "inclusion body" conjunctivitis is curable with penicillin has been advanced as an argument against the virus character of the "bodies."

Impetigo neonatorum, another staphylococci infection, generally responds well to penicillin given intramuscularly in average doses.

Little mention has been made of the sulfa drugs but it should be remembered that they are still useful in most of the obstetric conditions for which penicillin has been advised, the notable exception being syphilis. They are admittedly more toxic, a fact which militates against their extensive use, but the least toxic of the group may well regain some of their early popularity by reason of the advantages of oral administration and economy. Some observers believe that their employment simultaneously with penicillin may be advisable in more severe infections due to organisms sensitive to both drugs. At least, there appears to be no valid objection to such bilateral therapeutic attack in selected cases. The employment of three different members of the sulfa group, each in one-third the therapeutic dosage, appears largely to eliminate the danger of renal blockage by crystalline deposits, especially if the urine is alkalinized at the same time.

The place of streptomycin in the treatment of obstetric infections has not yet been clarified but some observers feel that it is too dangerous, and cite pregnancy as one of the contra-indications to its employment. Fortunately, there are relatively few conditions commonly encountered during gestation or the puerperium where its use might be indicated. The results in pregnant tuberculous women treated with relatively small daily doses have been encouraging, but more controlled data are needed before its final place, in the therapy of such patients, can be assessed.

The early tendency to view penicillin, and to a smaller extent the other antibiotics, as a true wonder drug and to give it for everything without the formality of diagnosis is diminishing, but it is still being employed in many cases where there is no indication for its use. Those who have had most experience with penicillin and who best appreciate its value and its limitations are now urging that it be employed only when indicated and then in full therapeutic doses. There are two good reasons why such a policy is reasonable and sound.

First, certain bacteriologists are fearful lest its indiscriminate use will produce penicillin-resistant forms, as can evidently be done with many of the normally sensitive strains. Certain bacteria, when grown in media containing penicillin, produce variants that closely resemble, and may be identical with, the pleuropneumonia-like organisms, or "L forms," which are penicillin resistant. There is some evidence that the same variation (mutation?) occurs in penicillin treated humans suffering from diseases caused by these organisms. There is, so far, no indisputable evidence that these bacterial variants are pathogenic to humans, but bacteriologists fear that may be the case.

The second objection is financial and, by reason of the constantly increasing cost of medical care, cannot be ignored. While penicillin is much less expensive than when it was first introduced, its cost to the patient when given in proper dosage is considerable, and there is no reason for giving it except in full doses. When its employment is strictly indicated it not only greatly improves the prognosis but may actually reduce the total cost of an illness by shortening the period of hospitalization. On the other hand, its indiscriminate use will frequently entail no benefit commensurate with the expense involved. When the present period of clinical testing is over, its use may be expected to be more rational than it is now.

The antibiotics as a group have proved useful in many infectious complications involving obstetric patients, but their final status in curative and prophylactic therapy is yet to be determined. It is, however, becoming evident that they should be employed only when indicated by the nature of the etiologic agent, and should then be administered in full therapeutic doses.

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Polio Treatment At Southwestern General Hospital



Rehabilitation of polio victims at Southwestern General Hospital.

El Paso has yet to see a major epidemic of anterior poliomyelitis, but the city and its surrounding territory experienced more new cases during the summer and fall of 1948 than in any previous year. Acute cases were admitted to general hospitals under contagious precautions, as well as to the Army's William Beaumont General Hospital. Civilian contagious facilities were provided by the isolation unit of El Paso City-County Hospital. Iron lungs were available at all of the hospitals through donations by private individuals and by the El Paso Chapter of the National Foundation for Infantile Paralysis.

Early in the spring of 1948 El Paso Chapter, carrying out the policy of the National Foundation, undertook to provide acceptable facilities for convalescent care of polio patients. Following a canvass of local institutions, Southwestern General Hospital generously offered about three thousand feet of floor space previously occupied by five general hospital beds, in a ground floor wing readily accessible to both resident and out-patients.

El Paso Chapter purchased a complete line of physical therapy equipment and subsidized the salary of an accredited technician until such time as the department became self-supporting. Recently a new iron lung has been donated by the Mary L. Peyton Foundation. Services are available to convalescent and late polio cases, out-patient or resident, as well as to other cases of injury or disease in which physical therapy may be indicated.

Equipment includes a galvanic and sinusoidal current generator, a frequency controlled short wave diathermy machine, a paraffin bath, a whirlpool or hydromassage bath, bakers, ultraviolet lamps, infrared lamps, suction-pressure therapy units, a complete Hubbard tank, and a fever therapy unit.

Mrs. Linnea Grandgenett, a member of the American Registry of Physical Therapy Technicians, a Bachelor of Science, and a graduate of the School of Physical Medicine of the University of Wisconsin, who was discharged from the Army of the United States at William Beaumont General Hospital following World War II, is in charge.

Physical therapy is available to surgical cases before and after operations for the correction of paralytic deformities.

The physical therapy department at Southwestern General Hospital is rendering excellent services to convalescent poliomyelitis patients in the entire El Paso area. Certainly its installation and operation are an ideal example of co-operation between many agencies and individuals—a forward-looking Foundation Chapter, a private hospital, related governmental and voluntary agencies, benevolent citizens, and the doctors of the community.

S. PERRY ROGERS, M. D.
EL PASO, TEXAS

Editorial comment: SOUTHWESTERN MEDICINE *on behalf of both the Southwestern Medical Associa-*

tion and El Paso County Medical Society herewith takes this opportunity to express the appreciation of the physicians of the Southwest for the splendid and generous co-operation of Southwestern General Hospital in the battle against anterior poliomyelitis. Not only, in view of the shortage of hospital beds. does the sacrifice of this much space represent a substantial financial loss, it splendidly exemplifies the unselfish spirit which has done so much to aid those individuals crippled by polio. —The Editors.

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SADDLE BLOCK ANESTHESIA IN OBSTETRICS

A Review Of 121 Cases

By G. M. Carpenter, M. D., El Paso, Texas

Since the introduction by Adriana and Parmley[1] in 1946 of "saddle block" anesthesia for the control of obstetric pain, numerous papers have appeared setting forth the virtues and limitations of the method. In the present report, the results obtained by this method of analgesia in 121 cases picked at random at the Newark Maternity Hospital will be considered.

Before proceeding further, a brief review of the neuro-anatomy of the female reproductive tract should be given.[2]

The nerve supply of the uterus is derived mainly from the sympathetic system; that of the cervix and upper portion of the vagina comes principally from the para-sympathetic system; while that of the lower part of the vagina and the perineum is derived in large part from the somatic or cerebro-spinal portion of the nervous system. Sensory fibers from the body and fundus enter the cord at the levels of T 12 and T 11; hence in order to secure analgesia from contractions of the uterine musculature during labor by use of saddle block, the block must extend as high as T 11. The motor fibers to the body and fundus, however, have their origin from segments T 4 through T12, so that a block which extends as high as T 11 or T 10 accomplishes its purposes of analgesia by blocking the sensory fibers from the uterus, while leaving the motor supply largely intact.

METHODS

The patients presented in this series were picked at random, no attempt being made to secure consecutive cases. This was largely a matter of convenience. The time elapsed during the study covers a period of fifteen months, extending from May 1947 through August 1948. Of the 121 cases collected, 83 were primigravidae, while the remaining 38 were multigravidae, ranging in parity from one to seven. There appeared to be no relationship between parity and success or failure of the method, or between parity and the development of unpleasant sequelae.

In the group of 121 patients, 127 blocks were given. Seventy-nine of the 83 primigravidae received only one block; two received two blocks each; and two received three blocks each. All of the multigravidae received only one block each, termination of labor occurring in this group before it became necessary to repeat the anesthesia.

All of the patients except nine were given blocks while in the sitting position. Nine patients were given spinal anesthesia when the presenting part was on the perineum, making it difficult for the patients to assume the sitting position. They were, therefore, given the anesthesia while in the lateral position, as a terminal procedure, for delivery alone.

Of the 83 primigravidae, 51 were given blocks when the cervix was completely dilated; 20 were given blocks when the cervix was dilated from 7 to 8 cm.; and 12 were blocked when the cervix was from 5 to 6 cm. dilated. No patient in this group received a block when the dilatation was less than 4 cm.

Twelve of the multigravidae were given blocks when the cervix was completely dilated; 16 were given blocks when the dilatation was from 7 to 8 cm.; and nine when the dilatation was from 4 to 6 cm. One patient in this group was given a block when the dilatation was between 2 and 3 cm. The baby was delivered 51 minutes later.

Nupercaine was used as the anesthetic agent in all cases. In some cases Nupercaine mixed with 10 per cent dextrose to produce a hyperbaric solution was used. Other cases received heavy Nupercaine. The amount of Nupercaine varied from 2.5 mg. to 4.0 mg. The patients remained upright after administration of the anesthetic agent for period ranging from 20 to 30 seconds before being placed in the supine position.

A mimeographed check form was kept on each patient. These forms contained spaces for recording data which we were interested in tabulating.

TECHNIC OF ADMINISTRATION

When it was decided to induce saddle block anesthesia the patients were moved to the delivery room. The site of the block was prepared with ether, alcohol and merthiolate, the patient being assisted by a nurse in maintaining the sitting position. At first a 20 gauge needle was used, but later a 22 gauge needle was considered better. Lumbar puncture was performed in the usual manner and the stylet withdrawn. On obtaining a free drip of spinal fluid the syringe containing the Nupercaine was attached to the needle and injection made rapidly, but between pains. The needle was then slowly withdrawn.[2] In later cases in the series the needle was advanced about one-fourth inch after a drip of spinal fluid was obtained to insure that the tip was lying completely within the canal. After maintaining the patient in the upright position for the pre-determined length of time, she was quickly placed in the supine position, with the head supported on a double pillow. Blood pressure readings were taken every two to three minutes during the first 10 to 15 minutes, and then every 10 minutes. After the lapse of 10 minutes it was not felt necessary to keep the patient absolutely in the supine position.

RESULTS

Anesthesia was obtained promptly in the majority of cases, relief of pain occurring usually within the first five minutes.

The duration of anesthesia was considered to be from the time the block was instituted until labor was terminated, or until it became necessary to repeat the block or substitute some other form of anesthesia because of return of pain. For the entire group the longest time was four hours, the shortest was 12 minutes, and the average was one hour and 19 minutes. The average in multigravidae was one hour and 28 minutes, and for primigravidae one hour and nine minutes.

Most of the labors were terminated before it became necessary to repeat the block. Eight patients were given ether for the actual delivery. Of these eight, four were considered failures due to faulty technic in administering the block, in-as-much as the pain was not completely relieved in any instance. In one patient the pain was relieved for only about one hour. This patient was given ether for delivery after three and one-half hours.

Faulty technic was considered to be the major factor responsible in cases obtaining unfavorable results, i. e., in which the patients experienced any pain. Of secondary importance was the amount of anesthetic agent used. In the 14 cases in this group, all but one had a maximum dose of 3.0 mg. Nupercaine. Eight of this group received 3.0 mg. doses; five received 2.5 mg.; the remaining patient was given 4.0 mg. of heavy Nupercaine. Of the 121 patients given blocks in this series 25 received 2.5 mg. of Nupercaine, 72 received 3.0 mg., seven were given doses of 3.5 mg., and 16 were given 4.0 mg. All of the 28 patients who received heavy Nupercaine except the one mentioned previously obtained good results, regardless of dosage employed. This was probably related to improvement in technic by the time routine use of heavy Nupercaine was started.

FIGURE 1. HEADACHE

	Number	Per Cent
Patients	121	100
Number with headache	36	29
Number with severe headache	5	4.13
Duration of headache:		
Two days	9	7.3
One day only	19	15.7
Three or more days	6	4.9

NOTE: One of the patients in the last group above had headache on three days, but not on consecutive days.

The length of time patients remained upright seemed of some importance in the production of good or poor results. In the group of 76 patients who remained upright for 20 seconds, poor results were obtained in nine, an incidence of 12 per cent. In the 26 patients who remained upright for 30 seconds, four were classified as poor results, an incidence of 15 per cent.

The only postpartum complication of consequence noted in this series was headache. Of the 121 patients studied, 36 developed headache at some time during their stay in the hospital. This is an incidence of 29 per cent. In the group of 83 primigravidae, 22 patients, or 26.5 per cent developed headache. Among the 38 multigravidae, 14 patients, or 36.8 per cent developed headache. Of the 36 patients who complained of headache during the puerperioum, only five were considered to be severe. A severe headache was arbitrarily defined as one which could not be relieved by the more common and usual remedies, and/or which persisted for more than two days. By these criteria only 4.13 per cent of the total group could be said to have had severe headaches. (Fig. 1).

The majority of patients developing headaches during the puererium did so on the third, fourth, or fifth day. In 19 of these 36 patients the headaches were of only one day duration, nine had headache for two days, and six had headache on three days. It was our impression, although unsupported by figures, that more headaches occurred when the lumbar puncture was performed with a 20 gauge needle than when done with a 22 gauge needle. Maintaining the patient flat in bed following delivery did not appear to decrease the incidence of headache.[4]

A fall in blood pressure of sufficient magnitude to necessitate treatment occurred in only eight instances. Sixteen patients had a blood pressure drop of 20 or more points systolic during anesthesia, and in 16 the pressure fell to less than 90, and only five had a drop in systolic pressure of 25 per cent or more. Most of these variations in blood pressure occurred in patients who had remained upright for only 20 seconds following administration of the anesthetic. Treatment in all cases consisted of ephedrine sulfate, 50 mg. intramuscularly or 20 to 25 mg. intravenously, plus oxygen inhalation. No patients failed to respond.

Two patients delivered twins, giving a total of 123 infants. Of this number 117 cried spontaneously and vigorously; two required oxygen inhalation because of cyanosis; two required resuscitation; and there were two stillborns. One of the stillborns was a macerated fetus, death of which was thought to have been the result of a short cord looped twice about the neck. The other stillborn infant followed the difficult, prolonged breech delivery of a large infant in a primigravida. (Fig. 2).

There were nine breeches in the series, five in primigravidae and four in multigravidae. One hundred fourteen delivered by vertex. Of this number 78 were anterior positions of the occiput; 20 were transverse positions of the occiput, and 16 were posterior positions. Of the 36 cases in which the occiput was other than anterior, 34 were rotated with forceps and two manually. There were 94 forceps deliveries and 20 spontaneous deliveries, in addition to the nine breeches.

The average duration of the third stage was eight minutes; the longest was 32 minutes; and the shortest was two minutes. The average duration was raised because of the fact that in some cases the episiotomy repair was effected before the placenta was delivered.

Blood loss was considered slight to moderate in the majority of cases, averaging what was estimated as being between 100 and 200 cc. One patient lost an estimated 500 cc, and five patients lost an estimated 300 cc.

CONCLUSIONS

In our experience, this method has proved to be an effective means of relieving the patient in labor of the major part of the discomfort coincident to the latter part of the first stage and the entire second and third stages. In no instances were the uterine contractions stopped by this type of anesthesia, and in the majority of cases labor appeared to be hastened, probably due to the better, more complete relaxation of the muscles of the pelvic floor. This relaxation, together with the loss of the bearing down reflex, probably accounts for the slightly increased incidence of persistent transverse and posterior position of the occiput. Transverse positions occurred in 16.5 per cent, while posterior positions occurred in 13 per cent. Low spinal anesthesia was felt to be of marked benefit in breech deliveries. Indeed breech position has come to be in our minds an indication for saddle block anesthesia for delivery because of the better relaxation obtained and the better oxygenation which can be maintained.

It was not felt that this type of anesthesia increased the overall incidence of low forceps operations except in the group of transverse and posterior positions, in-as-much as we resort to this procedure to effect delivery in the majority of cases.

We feel that in the primigravida, saddle block anesthesia should be withheld until the cervix is dilated to between six and eight cm. This should insure that de-

livery will occur before it becomes necessary to resort to a repeat block or some other form of anesthesia. We believe that repeated lumbar punctures are undesirable and should be avoided if possible. Multigravidae can be given blocks when the cervical dilatation is between four and six cm. if labor is progressing satisfactorily.

We have finally decided on a dose of 3.0 mg. of heavy Nupercaine as the optimum, and the upright position for 20 sections to be most effective. Attention to detail is most important when administering the anesthetic agent. Of major importance is being as certain as possible that the needle tip lies wholly within the spinal canal, otherwise results will be most disappointing.

As was pointed out previously, of the 121 viable infants delivered, only two required resuscitation. It is our practice to administer oxygen to the mother while she is being prepared for delivery. By means of this procedure, adequate oxygenation of the fetal blood is insured in most instances, and the babies cry spontaneously and quickly. The fact that nearly all patients received both demerol and tuinal as analgesia during labor did not appear to increase the incidence of neo-natal asphyxia in this series of cases.

Delivery was made easier in all cases. Haste was not felt to be necessary as it is in many cases delivered under ether anesthesia. A more meticulous repair of the pelvic floor could be effected when this became necessary, and we consider this to be of pronounced benefit to the patient.

Blood loss, we believe, was less in patients delivered under saddle block anesthesia than in those delivered under other methods. This is so probably because of the fact that the tone of the uterine musculature is not lost during saddle block anesthesia as it is during general anesthesia. For this reason also, the method cannot be used in cases in which relaxation of the uterus is desired.

FIGURE 2. CONDITION OF NEWBORN

	Number	Per Cent
Total number of babies	**123**	**100**
Cried spontaneously	**119**	**95.2**
Required oxygen (cyanotic)	**2**	**1.6**
Required resuscitation	**2**	**1.6**
Stillborn	**2**	**1.6**

Complications of the method can be divided into two groups: those occurring during labor, and those occurring during the puerperium. Of the complications during labor, drop in blood pressure was easily combatted by the measure previously mentioned. Nausea and vomiting, which occurred in a few patients, usually in those in which there was a significant drop in blood pressure, were treated by measures designed to restore the blood pressure to normal, and by the inhalation of oxygen by the patient. This was successful in nearly all cases. Failure of the method and poor result can be overcome by rigid adherence to technical details, and by the judicious choice of cases.

Complications occurring during the puerperium were practically exclusively limited to headache. In the latter part of this study it was felt that employing a 22 gauge needle for the lumbar puncture would reduce the incidence of headache. Encouraging the patient to move about in bed early, rather than being kept flat was felt to be of value.[4] We have not found tight abdominal binders to be of the value in treating these headaches that others have.[5] Few patients failed to respond to aspirin and codeine, and as was pointed out previously, only six patients complained of headache for three days or longer. One patient had a headache which persisted for seven days. She had received three blocks, and demerol was necessary to control the pain of the headache. This distressing complication cleared up at the end of this time and there has to our knowledge been no recurrence. We do not believe that the incidence of headache during the puerperium is of such severity as to offset the benefits to be derived from the method.

That the method is more time consuming than delivery using ether anesthesia cannot be denied, and this very fact will probably limit its use in private practice, especially in those hospitals in which there is no house staff.

SUMMARY:

1. Results obtained in 121 deliveries in which saddle block anesthesia was employed are presented.
2. The advantages and disadvantages of the method are considered.
3. Recommendation of this type of anesthesia for breech deliveries is made.

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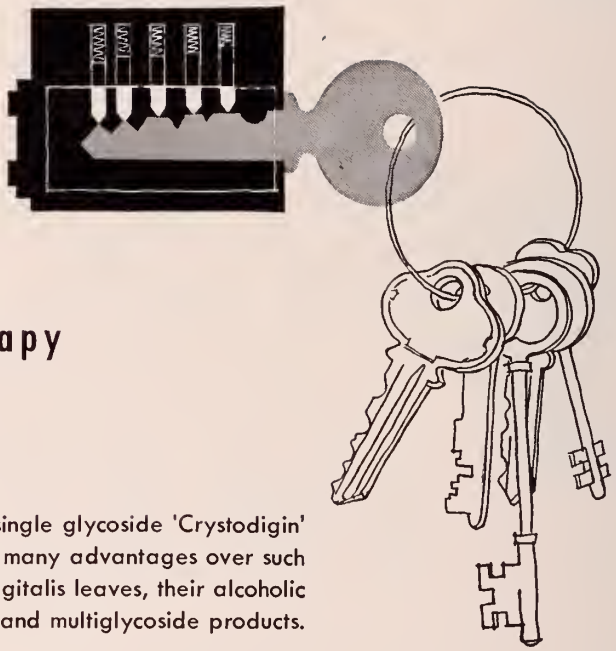
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VOL. XXIX APRIL, 1949 No. 4

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Post-Graduate Papers From San Antonio

SOUTHWESTERN MEDICINE takes pleasure in announcing that through the co-operation of the officers and Board of Directors of the International Post-Graduate Medical Assembly of Southwest Texas, that the program presented January 25th, 26th, and 27th of 1949 in San Antonio, Texas, will be published in part. This Assembly has as its objective the dissemination of practical post-graduate instruction. The speakers, leaders in their respective fields, present the current views on the every-day problems in the practice of medicine.



Boen Swinny, M.D. President of the International Post-Graduate Assembly of Southwest Texas.

The problem of post-graduate instruction in the Southwest differs materially from the same problem in metropolitan centers. At present we are not endowed with medical schools and teaching hospitals. We must, by necessity, derive a great deal of our knowledge from the reading of medical periodicals and from assemblies. These assemblies must furnish material which is usable in the every-day practice of medicine. This material further must be varied so that each physician in attendance can derive something which is particularly beneficial to him. The International Post-Graduate Medical Assembly definitely fulfilled these requirements.

The Editors of **Southwestern Medicine** particularly wish to express their thanks to Dr. Boen Swinny, president; Dr. C. F. Lehmann, president-elect; Dr. Merton M. Minter, first vice-president; Dr. Charles L. McGehee, second vice-president; and Dr. John J. Hinchey, secretary-treasurer, for their sincere efforts and co-operation in making proceedings of this assembly available to the readers of **Southwestern Medicine.**

Seven Outstanding Speakers At New Mexico Medical Society Meeting

Seven distinguished medical speakers from all sections of the nation will feature the annual meeting of the New Mexico Medical Society, May 5 - 7 in Roswell, Dr. Van A. Odle, president of the Chavez County Medical Society, which is sponsoring the convention, has announced.

The seven speakers all have gained national recognition in their specialties. The scientific program will not only be highly interesting but of great practical value to both general practitioners and specialists.

Dr. M. Edward Davis, chief-of-staff, Lying-In Hospital, Chicago, Illinois.

Dr. E. S. Judd, Jr., surgeon, Mayo Clinic, Rochester, Minnesota.

Dr. T. Leon Howard, urologist, Denver, Colorado.

Dr. J. Mackenzie Brown, otolaryngologist, University of Southern California, Los Angeles, Calif.

Dr. F. R. Keating, Jr., internist, Mayo Clinic, Rochester, Minnesota.

Dr. A. J. Quick, internist, Marquette University, Milwaukee, Wisconsin.

Dr. Earl D. McBride, orthopedist, Oklahoma City, Oklahoma.

The convention will open with the meeting of the House of Delegates May 5. The scientific program will follow over the three-day period. The usual luncheons will include question and answer periods.

There will be excellent entertainment. A smoker with tops in entertainment and drinks will be held at Roswell Country Club. The banquet for physicians and their wives will be held in the American Legion hut May 6. The scientific and business sessions will close Saturday noon, May 7, and a golf tournament will be held that afternoon.

Daily entertainment is scheduled for ladies attending with their husbands. There will be a fine group of technical displays. All sessions both for men and women will be held in the Roswell Women's Club building. The exhibits will be located there. Luncheons and other entertainment will be held in convenient and nearby locations.

Officers of the Chavez County Medical Society, sponsor of the 1949 New Mexico Medical Society meeting, are: Dr. Van A. Odle, president; Dr. R. D. Haire, vice-president; and Dr. Earl L. Malone, secretary-treasurer. The program committee members are: Dr. R. P. Waggoner, chairman; Dr. George S. Morrison, and Dr. I. J. Marshall.

—

SOUTHWESTERN MEDICINE *urges the attendance of all readers. At present the physician is the target of the bureaucrats. We of the Southwest are so situated that distances between us are relatively great. We do not have the opportunity of exchanging views with our fellow practitioners as often as we should. This exchange of viewpoints is healthy and should be fostered. This meeting will serve as a medium for this exchange of viewpoints. It is assured that all attending this meeting will not only come away repaid from a didactic standpoint, but with a sense of fuller camaraderie.*—The Editors.

ACUTE ABDOMEN IN CHILDREN

By Jesus Lozoya S., M. D., F. A. C. S., F. A. A. P.
Chief of the Department of General Surgery, Children's Hospital, México, D. F.

The surgeon is often confronted with the problem of giving promptly the diagnosis of a patient with an acute abdomen. The problem is complex: it involves in each case the diagnosis and the following steps which have to be defined quickly and at the right moment. We have to face these difficulties in our department at the Hospital Infantil of Mexico almost every day. And the problem becomes complicated when our decision forms the basis for the judgment of the assistant doctors, interns, or pupils in the Surgical Department.



Jesús Lozoya, M.D.

We have studied this subject in the best books and medical journals, through direct observation and by personal talks with surgeons in the best clinics of the U. S.; yet we have not been able to find a definite criterion, precise and synthetic, that covers all cases. That is why we were moved to think out and deduct from our own experience the general lines that guide our conduct and support our criterion. Naturally we take into account, as a basis for judgment, the experience of the great masters in this field. But the arrangement of the ideas serving as a guide for diagnosis is mainly the result of our observations during five and a half years' work as Chief Surgeon in the Hospital Infantil of Mexico, with 12,817 surgical cases (45 per cent) out of a total of 28,440 discharges.

The cases here studied refer only to to the acute-abdomen syndrome in children ranging from 0 to 15 years of age in a population where malnutrition is very high and medical culture very low.

Being a syndrome, the acute abdomen may have different causes, all producing the same picture, "the abdominal catastrophe which demands immediate surgical intervention." That is what is generally understood by term "acute abdomen" though it is not included in the International Code as a nosological entity.

We can go over the symptoms and signs that constitute this syndrome following this proposed sequence:

1. Pain.
2. Vomiting.
3. Temperature, pulse, respiration.
4. Bowel movements.
5. General condition and facies.
6. Physical examination of the abdomen.
7. Rectal examination.
8. Complete and repeated examinations.
9. Laboratory data: W.B.C., hematocrit, blood chemistry; urine: glucose, acetone and diacetic acid.
10. X-rays.

Each one of these signs, symptoms, or examinations has special characteristics for each group. That is why we shall study them in detail in connection with each chapter.

Now, when we are confronted with a patient with abdominal complaints, vomiting, difficult bowel movements, intense colic, etc., which suggests the syndrome of "acute abdomen," one must be sure that that is the case. If so, one has to find out the etiology of the syndrome, to make a more precise diagnosis and to be able to apply a reasonable treatment.

Here is where our observations may be valuable, dividing all the patients from the etiological as well as the pathogenic point of view in four basic groups and two secondary ones.

BASIC GROUPS

1. Of infectious origin=Peritonitis.
2. Of mechanical origin=Intestinal obstruction.
3. Of vascular origin = Infarct of intra-abdominal viscera.
4. Of traumatic origin = Acute abdominal trauma.

SECONDARY GROUPS

5. Intra-abdominal tumours.
6. Pseudo-acute-abdomen.

FIRST GROUP (of Infectious Origin)

1. Appendictis: Acute catarrhal; suppurated; gangrenous.
2. Peritonitis:
   - I.—Primitives.
   - II.—Secondary:
     - a) perforation of the appendix.
     - b) intestinal perforation in typhoid fever.
     - c) perforation due to ascarids or oxiours.
     - d) gall-bladder perforation in typhoid fever.
     - e) perforation of gastroduodenal ulcer.
     - f) intestinal perforation in salmonellosis.
3. Meckel's Diverticulitis.
4. Acute intra-abdominal adenitis:
   - a) mesenteric (nasopharingitis, adenoamigdalitis).
   - b) post-vaccination, in the lower extremities.
   - c) consecutive to infected wounds on the lower extremities.
5. Cholecystitis.
6. Subphrenic abscess.
7. Hepatic abscess.
8. Splenic abscess.

SECOND GROUP (Mechanical Origin)

1. Duodenal obstructions:
   - a) stenosis or atresia of duodenum.
   - b) Ladd's syndrome (malrotation of the bowels).
2. Intestinal obstruction (high):
   - a) stenosis or atresis of jejunum and ileum.
   - b) intussusception ileoileum, ileocecal-colonic.
   - c) strangled hernias: (umbilical, funicular, diaphragmatic internal).
   - d) volvulus.
   - e) obstruction due to foreign bodies: (coprolits, parasits, seeds, earth, sand, diverse objects).
   - f) chronic Ladd's syndrome in acute phase.
   - g) meconial ileus.
3. Intestinal obstruction (low):
   - a) stenosis and atresias of colon.
   - b) colonic intussusception.
   - c) anal atresia: simple and with fistula recto-vesical or recto urethral, recto-vaginal or recto-perineal.

This Paper was presented before the International Post-Graduate Medical Assembly, San Antonio, Texas, January 25-27, 1949.

d) congenital malformation of the ileo-ceco-appendicular, criss-cross.

4. Paralytic ileus (last stage).

THIRD GROUP (Vascular Origin)

a) intestinal infarct: post-splenectomy: thrombosis in severe infection, (typhoid, salmonellosis, typhus, etc.).

b) twisting of pedicles: ovaric, epiploic or mesenteric cysts; spermatic chord or Morgani's hydatid; torsion of omentum.

c) duplication of different parts of the digestive tract.

d) pancreatic necrosis.

FOURTH GROUP (Traumatic Origin)

a) severe abdominal contusion.

b) rupture of solid intra-abdominal viscus.

c) rupture of hollow intra-abdominal viscus.

FIFTH GROUP (Intra-abdominal Tumors)

1. Wilms' tumor.
2. Giant hydronephrosis.
3. Neuroblastoma sympatheticum.
4. Unattached retroperitoneal embryoma.
5. Other tumors of the adrenal gland.
6. Intra peritoneal tumors:

Intramesenteric cyst (serous and chylous).
Epiploic cysts and tumors.
Tuberculous lymphnodes.
Lymphosarcomas.
Intestinal sarcomas.
Hepatic sarcoma.
Teratoma.
Congenital dilitations of the bile ducts.
Hydatid cyst.
Duplications of the digestive tract.
Giant splenomegalias caused by malarias, Gaucher s or Banti's disease.
Spleen tumors.
Teratoma of the abdominal wall.

The last two groups are quite special; the fifth one referring to intra-abdominal tumors, has to be entered as abdominal emergencies, because the growth of these tumors is extraordinarily accelerated in children; and the chances for the patient to survive are in direct relation to the promptness with which the diagnosis is made and the treatment started. A few weeks, or even days, are sufficient to actually "see" the tumor grow. Delay involves repeated examinations which always give rise to metastasis. That is why we consider all intra-abdominal tumors in children as emergency cases. We forbid abdominal examination more than twice before operation. Surgical removal is performed if it is not too late and as soon as the elementary pre-operative requirements have been fulfilled. We do not feel ashamed if more than once the final diagnosis has been made by the pathologist.

When operating, we make a wide incision, to get to the pedicle as soon as possible in order to tie it and avoid metastasis.

SIXTH GROUP (Pseudo-Acute Abdomen)

a. Acute lobar pneumonia and pleurisy, right side.
b. Acetonemic, cyclic vomiting.
c. Severe toxicosis.
d. Rheumatic purpuric ileitis.
e. Acute gastroduodenal distension.
f. Paralytic ileum (not in the last stage).
g. Severe dysenteric recto-colitis.
h. Chronic ulcerative colitis (acute stage).
i. Segmentary ileitis.
j. Shock after accelerated or excessive venoclysis (blood or saline).
k. Traumatic shock (without real abdominal contusion).
l. Intra-abdominal pain in nephrotic and nephritic cases, without true peritonitis.
m. Nephritic colic.
n. Acute pyelitis, hydronephrosis (not giant).
o. Intra-abdominal pain in some hematological pictures.
p. Acute, temporary reaction of the mesenteric lymphnodes in acute amigdalitis.
q. Hematocolpos.
r. Suppurated cyst of the urachus.
s. Extraordinary distension of the bladder.
t. Large abscesses in the abdominal wall.
u. Allergic colic.
v. Lead poisoning.

The sixth and last group is very important. It corresponds to what we call pseudo-acute-abdomen, and a great variety of diseases have been placed here. Some are located beyond the abdomen but give a very dramatic abdominal symptomatology. There is only a moderate peritoneal reaction, mild in proportion to the catastrophic character of the abdominal picture present. In other cases there may be a considerable peritoneal reaction, but this must not be treated by surgical means. We must know very well all the diseases that constitute this group, in order to be able to distinguish them from the real, acute abdomen. This justifies our constant insistence on pediatric surgery as a specialty by itself and our feeling that those who practice in this field should be expert pediatricians as well as skilled surgeons.

STUDY LIMITED

In this paper we cannot study in detail all the above mentioned diseases. We are limiting ourselves to the general guiding points that form our criteria for diagnosing a really acute abdomen, comprised in any of the first four groups, or a case of intra-abdominal tumor. These are the data that can lead us to classify a case in the pseudo-acute-abdomen group. To this end, one must take into account the list of signs and symptoms numbered at the beginning, and one must carefully note the past history, the onset and evolution of the disease.

INFECTIOUS GROUP

Here there is always hyperthermia from the very beginning of the pathological condition. The temperature is in proportion to the formation of an abscess or to the virulence of the infection. Pulse and respiration follow in accordance with temperature, except in the cases of gangrene, where the temperature falls and also in the final stage of deep infections, when the patient does not react any more. In this stage, Forgue's sign may appear, with the curves criss-crossing each other.

In infectious diseases belonging to this group there is always considerable leukocytosis with neutrophilia except in gangrene, severe infections when the patient does not react any more, typhoid fever, and virus infections. In typhoid fever we find leukepenia and lymphocytosis which combine with the leukocytosis and neutrophilia of the peritonitis, the resulting formula showing a relative leukocytosis with neutrophilia within the blood picture

pertaining to typhoid fever. In virus infections (for instance in post-vaccinal iliac adenitis) the leukocytosis and neutrophilia of the intra-abdominal infection combines with the leukepenia and lymphocytosis of the vaccination. Hematrocrit gives the hemo-concentration and blood and urine tests show the acidosis of the patient.

Finally we have to look carefully into the history to detect a sudden inflammation of the peritoneum and its successive development. Pain may appear in two ways in this group: First, as a colic, reflex type, when the patient does not feel pain at the site of the lesion but usually at the origin of the nervous plexus (following the metameric innervation of the abdomen). This is pain of the visceral type; it is caused by the distension of the peritoneum of the viscus by gas or fluid and can be produced only by pressure on the sick viscus. This pain is typical in acute appendicitis with suppuration, during the first hours, before the infection invades a large area of the peritoneum or becomes generalized.

The second way in which pain may appear is the type which comes on several hours or even days after the onset of the infection, when the infection is already extending to the peritoneum. The patient is then incapable of localizing the pain to a definite place in the abdomen, but it can be elicited by pressure in any place in the whole abdomen, or at least in a large zone the muscular defense is generalizing and in severe cases it is extreme.

The vomitus may vary from simple food to the typical vomiting in peritonitis, this last being the most frequent in this group.

PERITONITIS

Generally speaking and applying to 90 per cent of the cases of peritonitis in children, there is a definite diarrhea, contrasting with the same cases in the adult. Peritonitis in children does not always produce intestinal paralysis except in the final stages. In cases of gangrenous appendicitis diarrhea is always present with the typical color and odor of "sewage."

In cases of inflammation or ulceration in Meckel's diverticulum, stools with pure red blood are typical. The "peritoneal facies" is always present in this group.

Rectal examination is fundamental. It is much more enlightening in the child than in the adult. In cases of a true intra-abdominal complaint we find the anal sphincter contracted (Yodice's sign), the rectum clogged with fecal matter, and if we can reach the zone, zones, or organs affected with our finger, we can easily feel with certain acquired ability the edema, the inflammation or abscess, and we may even increase the pain.

ABDOMINAL EXAMINATION

The examination of the abdomen, besides revealing pain, muscular defense, abscesses or masses, can also show us, if we learn to look for it, the edema of the wall, especially in the posterior part of the lateral walls, in the advanced stages, especially if the patient is an infant. These patients have to be examined at least twice, on admission and several hours later, after the patient has been properly hydrated, given good rest, and the pain calmed by means of any barbiturate. More than once we have had to change our diagnosis on the second examination. Plane x-ray films, in different positions (recumbent, sitting, standing) are very helpful. They give decisive information in cases of peritonitis, above all when there is perforation of a hollow viscus. They show the image of free air in the abdominal cavity, which changes with the patient's position. These plates have to be taken after keeping the patient in the desired position for ten minutes.

MECHANICAL GROUP

In the second group (mechanical origin) the symptomatology is more dramatic and constitutes that of intestinal obstruction. The principal data for our diagnosis, therefore, will concern difficulty in the intestinal transit (colicky pain, constipation, vomiting), data from the rectal examination and from physical examination of the abdomen; negative results of laboratory tests regarding infection; history of sudden onset of the disease, and more or less rapid progress, these last two obtained by careful questioning; and, finally and most important, x-rays that confirm the diagnosis of obstruction.

Summarizing: in this group, complete or incomplete intestinal obstruction is predominant with its corresponding symptomatology of vomiting, which is really a compensating discharge for the liquids which cannot follow the normal path from mouth to anus. The vomitus is always tinged with bile, if the obstruction is located in the duodenum. Below Vater's ampulla it will contain food, juices or fecal matter, if located in a lower part of the intestines. The intestinal movements are interfered with either totally or partially, as already stated. In intussusception the stools have the typical appearance of a bloody jelly.

Gastro-intestinal peristalsis is visible and audible because it is always exaggerated (except in the severe cases of paralytic ileus where it is completely abolished). This explains the intensity of the colic like pain, present in all the diseases of this group, caused by the butting of the peristaltic movement against the obstacle that clogs the intestinal pathway. The pain in these cases can be properly compared to "pains during labor." It begins with medium intensity and in a few seconds it grows to a paroxysmal point. The patient twists himself, bends the legs against the pelvis, his face becomes congested, the abdominal wall contracts and a few seconds later, the colic declines and the patient relaxes all the muscles. This relaxation becomes more marked as the ailment advances, or if the pain is more intense. This kind of pain is typical in cases of intussusception. Inspection of the abdomen, as said before, shows intestinal peristalsis and distension in some part or the whole of the intestinal tract, unless it has been cleared out by vomiting or at the beginning of the disease. On palpation, muscular defense is found, more or less limited to the zone where the obstacle is located. In cases of intussusception there is the typical sausage shaped mass in some of the segments of the colon.

RECTAL EXAMINATION

The rectal examination gives the following data: contracted sphincter, empty rectum and a palpable sausage shaped mass, in the cases of intussusception, either in or out of the lumen of the sigmoid. In other types of intestinal obstruction, by simple rectal examination, one may often form some idea as to where the obstacle is.

The blood count is normal unless gangrene or infection has already set in. Blood chemistry and urine tests show the state of acidosis or alkalosis of the patient. The more severe the dehydration, acidosis and intensity of pain, the more marked will be the peritoneal facies.

X-rays are here of great help, perhaps more so than

in any other group. If we use fluoroscopy or simple films, they will show us the location of the obstruction, the level of liquids and gases in the distended bowel above the lesion, changing levels according to the position of the patient. The study with barium by mouth gives the distension of the intestinal tract above the obstacle. This is absolutely necessary in cases of high obstruction from the duodenum up. Barium enema shows us the obstacle from down up, especially in intussusceptions; and it may even cure the colo-colic intussusception if used with pressure. In cases of atresia of the anus, simple postero-anterior and lateral films, with the patient hanging by the feet for five minutes, show the distance between the rectal pouch and the anal skin.

VASCULAR GROUP

The third group (vascular disturbances) comprises the greatest variety. Therefore it is harder to generalize about these cases. Intestinal infarct, because of thrombosis has always the antecedent of a serious generalized infection through the whole organism. In the midst of this generalized infection, suddenly the acute-abdomen syndrome appears. The very special cases of patients having had splenectomy constitute a type by themselves. The infarct generally appears within the first 15 days after operation, when platelets are suddenly increased.

When there is twisting of the pedicle of the viscus, the beginning is very sudden and intense pain overshadows all the other symptoms. By physical examination one can confirm the twisting of the pedicle. Routine laboratory tests, which are negative in these cases, corroborate the diagnosis.

Duplications of the different parts of the digestive tract may present a picture similar to that given by vascular disturbances, obstruction, or intra-abdominal tumors, or a combination of these three. Necrosis of the pancreas is very rare in children with much more dramatic symptomatology than in the adult.

In spite of the intensity of the pain, the general condition of patients in this group is usually very good. In the first few hours blood counts are normal. Later, in cases of large infarcts, leukocytosis with neutrophilia appear.

TRAUMATIC GROUP

In the fourth group (traumatic) antecedents or history are of paramount importance, as well as the presence of other traumatic lesions and the state of shock. The hematocrit shows marked blood concentration. Contrary to the adult, the child shows considerable rise of temperature while in state of shock. This shock must be controlled immediately by all possible means. If the case is one where a hollow viscus has been perforated, all the signs of pneumo-peritoneum are found, and the presence of free gas in the peritoneal cavity shown by x-rays confirms the diagnosis.

When one of the solid viscera has been crushed or torn, we have the syndrome of internal hemorrhage plus acute abdomen.

TUMOR GROUP

In the fifth group (intra-abdominal tumors) we have already stated why we consider these cases as surgical emergencies. Wilm's tumor ranks highest in statistics and it is a condition which justifies prompt and efficient intervention. If these tumors are operated at the beginning, with good technical control, and submitting the patient afterwards to x-ray therapy, the chances of survival are astonishing. In spite of being probably the most malignant cancer in children, Wilm's tumor is also the one most successfully treated by the surgeon.

ABDOMINAL GROUP

The sixth group (pseudo-acute abdomen) is fundamental in differential diagnosis. To make correct diagnosis, thorough pediatric training is required, as well as long practice in children's surgery.

Whenever the syndrome of acute abdomen appears suddenly in a child, we must keep in mind the possibility of acute lobar pneumonia on the right side, above all if the child has been suffering from nasopharingitis or tonsillitis. We can arrive at the diagnosis by carefully examining the thorax in every case of acute abdomen. X-rays may confirm the findings. We must remember also the possibility of pleurisy and that the clinical study is always more important in these cases than x-rays.

Acetonemic cyclic vomiting produces the acute abdomen syndrome; and it is difficult to differentiate it from the advanced stages of acute appendicitis. Nevertheless in cyclic vomiting blood count is normal. The rectal examination shows that the pain is located in the anterior abdominal wall, not in the caecum. The general appearance is typical of acetonemia, with deeply shaded circles under the eyes. The diagnosis is finally arrived at by considering history of previous attacks, fever or sunstroke, or excessive exercise some hours before, and the high degree of acetone and diacetic acid in the urine. By giving 10 per cent glucose solution and insulin intravenously, one can make the syndrome disappear in one or two hours.

Advanced cases of toxicosis often present the acute abdomen syndrome; that is when there is intense dehydration caused by diarrhea and intense vomiting, due to the salmonellosis so frequent in our population. Intervention in these cases is fatal. Diagnosis can be made by the careful study of the patient, which reveals that the toxic condition is severe and that the abdominal symptoms do not correspond to the intensity of the diarrhea and dehydration. The abdominal syndrome is due to intestinal distension produced by small and multiple hemorrhages in the intestinal wall. We have lately found out, through a personal communication with Dr. Castellanos from Havana, that he has already mentioned these cases. Except for Dr. Castellanos' note, we have not been able to find anything more on the subject, either in medical or surgical literature.

Rheumatic purpuric ileitis generally has also a pultaceous tonsillitis, a discrete number of petechiae, very high temperature, high leukocytosis with moderate neutrophilia and above all, very rapid sedimentation rate.

Acute gastro-duodenal dilatation may appear as a post operative complication, but we also find it in dehydrated children and in chronic vomiting. The use of the common syphon clarifies the diagnosis.

PARALYTIC ILEUS

In the post operative period of serious cases, in patients with large casts for the pelvis thorax or vertebrae, and also in very dehydrated patients, we must keep in mind paralytic ileus before making the diagnosis of acute abdomen.

In advanced cases of ulcerative recto-colitis caused by bacillary dysentery, frequent in patients living in the tropics, we have leukocytosis (30,000 to 50,000) with

very high neutrophilia (90 to 95 per cent). Rectal examination gives us the clue for diagnosis when the finger can reach the fungoid and ulcerated mucosa of the recto-sigmoid. The material obtained with the examining finger has a definite "sphacelus odor." Slides and cultures can be made with it to confirm the diagnosis.

Chronic ulcerative colitis in the acute stage may suggest acute abdomen. If we can discard intussusception, we can get at the diagnosis by the past history of typical stools in these cases.

Segmentary ileo-colitis is another disease we must consider when making the diagnosis of acute abdomen. But if we know it well and keep it in mind, it is difficult to make a mistake.

PSEUDO-ACUTE ABDOMEN

We have not found any description in pediatric or surgical literature of the pseudo-acute abdomen caused by venoclysis, when given in excessive amounts and too fast, especially if blood has been mixed with different solutions. We may also find it with a slow venoclysis that has been continued too long. In the "Hospital Infantil of México" this happens mostly with the change of interns. Past history and the state of shock make the diagnosis. By correcting the shock, the picture of acute abdomen disappears. This is not always easy. A high percentage of these patients die with fever above 105 F. This picture is due to the intense edema of the peritoneum which appears before the edema of the ankles, brain, or myocardium. When we first treated these cases, not knowing this picture, two operations were performed and in both the peritoneum, especially the omentum, was intensely edematous, resembling jelly. Dr. Farber of Boston (personal communication) told us that he had confirmed this in some autopsies.

We have sometimes seen children in an intense state of shock caused by trauma, from falling out of a tree, for example. They may have fractured limbs without abdominal contusion at all, and yet on admission to the ward they may be diagnosed as traumatic acute abdomen. When the shock is treated the pseudo-acute abdomen disappears.

The acute abdomen in nephrotic or nephritic patients is well known, with very mild peritonitis or none at all. The problem with these patients is more complex, and we have to study them very carefully before deciding to operate, since sulphas, streptomycin or penicillin are more efficient than our bistoury. Yet we must consider the possibility of an acute appendicitis or intestinal obstruction in patients who have the peritoneum constantly flooded by ascites, and where adhesions or bands may appear at any time.

Colic caused by calculus in the kidney or ureters can also resemble acute abdomen. Yet, with a careful study, the diagnosis is not difficult.

PYELITIS

Pyelitis or pyelonephritis is also a cause of error. We must explore carefully both sides and the lumbar regions. A consideration of the typical temperature chart, the color of the skin; and, above all, examination of catheterized urine are necessary for diagnosis.

Some hematological cases, for instance sickle cell anemia, may be accompanied by abdominal pains that may mislead us, but it is sufficient to have them in mind to avoid mistakes.

In children with adenoidism the reaction of the mesenteric lymph nodes is frequent in the attacks of acute adeno-tonsillitis.

The string of painful swollen masenteric lymph nodes can be felt by palpating the abdomen and specially by rectal palpation. We have to be patient with this type of case; before twelve hours of treatment with sulphas, penicillin or streptomycin can rule out acute abdomen.

Hematocolpos, suppurated cyst of the urachus, and very distended bladder may be misleading, if we forget these possibilities. The patient always has pain, muscular defense, and a rounded mass in the lower abdomen, yet diagnosis is relatively easy, if we make a complete and careful examination.

We are constantly saying to students that errors in the surgeon's diagnosis are often due to incomplete or superficial examinations, or because of not having examined the patient at all, trusting one's impression of acute abdomen and considering it too clear to be put to question. We had some such experience in the case of a child with a large abscess in the abdominal wall. If thorough examination is made, such errors may be avoided.

ALLERGY

There is no doubt that more than once we have run into a case of pseudo-acute abdomen that is due to allergy either to food or other causes. This presents difficulties in differential diagnosis, if we do not know about the allergic tendency of the child. Nevertheless the acute abdomen in this case is never bizarre. And there are always some other allergic symptoms present that can lead us to the diagnosis.

Lead poisoning, as is well known, may produce real abdominal pain and vomiting which can confuse the surgeon, if he does not pay attention to the general appearance of the patient and to the condition of the gums, which should arouse his suspicion. This should lead him to check the history again for exposure to lead. X-ray films of the bones and a study of the RBCs should confirm the diagnosis.

And now, we have to say again what the great masters have said long ago: "Acute abdomen is always an enigma." The more we see children with acute abdomen the more we confirm the truth of the saying. That is a consolation for the errors we have committed.

SUMMARY

The author presents the abdominal emergencies in the child, studied in a five and a half years' period as Chief Surgeon in the Hospital Infantil of México, with 17,817 cases (45 per cent) out of a total of 28,440 discharges, in children from 0 to 15 years of age and in a population where malnutrition is very high and medical care very low.

All abdominal emergencies are divided, from the etiological as well as the pathogenic point of view, into four basic groups and two secondary ones: (1) Peritonitis, infectious origin; (2) intestinal obstruction, mechanical origin; (3) infarct of intra-abdominal viscera, vascular origin; (4) acute abdominal trauma, traumatic origin; (5) intra-abdominal tumors, and (6) pseudo-acute-abdomen.

The purpose of this paper is to give a general plan that can serve as a guide in the diagnosis and treatment of these emergencies.

NEUROSURGICAL RELIEF OF PAIN

By W. A. Jones, M. D., El Paso, Texas

This subject has always been extremely interesting to me because the relief of pain is one of the fundamental aims of medicine. Since the beginning of medicine various methods have been employed in eradication of pain. There are many cases that will respond medically but the refractory ones are the concern of this paper. No attempt will be made in this paper to completely cover the various aspects and manifestations of pain, but the more common varieties encountered by the physician will be outlined. The surgical technique will not be discussed as each surgeon uses a different technique and in most instances it is not interesting to the average physician. Only the therapeutic application will be discussed here.

CHORDOTOMY

Chordotomy is one of the most useful procedures in combatting severe pain below the costal margin. Especially is it useful in controlling pain due to malignancy of the bladder, rectum or pelvis. Whether the procedure is bilateral or unilateral will depend upon the location of the pain. In severe tabetic pain of the lower extremities a chordotomy often relieves the patient of his pain.

SYMPATHECTOMY

Sympathectomy as operative procedure has many valuable applications in relief of pain associated with vascular phenomena.

1. Raynaud's Disease—In this disease so far there has not been developed a satisfactory medical regime to combat this condition. However there are a few agents that are appearing in literature from time to time that offer a measure of relief. Priscoll and other such agents as etamon are useful adjuncts. But the more stubborn cases that do not respond to medical management should be subjected to a sympathectomy, as this is the accepted choice of treatment.

2. Thromboangiitis obliterans and arteriosclerosis often respond favorably to a sympathectomy. The pain is relieved. There is much improvement in the vascular supply to the limbs involved. It might be stated that this is not a curative measure for these disease processes but postpones the necessity of an amputation and will give a better stump if prosthetic appliances are indicated.

3. Acute occlusion of a major peripheral vessel is another condition in which a sympathectomy is employed, as this will often help preserve the extremity involved.

4. Causalgia presents one of the most difficult types of pain one encounters. It is associated with incomplete peripheral nerve lesions, most commonly associated with the median or sciatic nerve. This condition, in most instances, if severe, will not respond to medical management, and the patient should be subjected to a sympathectomy before severe psychic trauma has developed. It is my opinion the results will be better.

PREFRONTAL LEUCOTOMY

Prefrontal leucotomy operative procedure is applicable to inoperable cancer in any portion of the body. It can be carried out under local anesthesia in most cases. This operation should not be used unless the patient has longevity of three to six months. An interesting feature about this operation is that it takes away the fear of death and relieves the state of anxiety. The fear of pain is often more dreadful than the pain itself. After a prefrontal leucotomy, pain becomes bearable. It seems to divorce the patient from his relation to the pain and his natural reaction to it. The patient will often state that he has pain but it does not cause him any discomfort. In time I believe that this will be a treatment of choice of all intractable pain associated with a malignancy. So far there has not been sufficient evidence to determine whether the operation should be unilateral or bilateral. It is believed in most cases that a unilateral approach should be employed first as the mental symptoms and changes in personality are less.

Phantom limb—I know of no other condition that is more refractory to all forms of therapy than the pain associated with a phantom limb. Chordotomy, sympathectomy, post central gyrectomy, all fail in the majority of cases. The balance of evidence is pointing to a prefrontal leucotomy as the accepted form of therapy for this condition.

RHIZOTOMY

The posterior section of the nerve root or sensory root is at times valuable in relieving pain, if the pain is confined to an extremity and has no possibilities of spreading, or if you have a specific root involved. This operation is limited in its application.

LOCAL NERVE BLOCK OR NERVE CRUSHING

This application for relief of pain is also limited. It is best used when the pain is confined to specific nerve and especially if it is sensory in nature.

EXTRADURAL BLOCK OR INTRASPINAL USE OF ALCOHOL

I hesitate to recommend this procedure, as often the results are unsatisfactory and may leave the patient in a more unfavorable state than before its application. The patient may complain of paresthesia, weakness of the lower extremities and partial or complete paralysis of the sphincters of the urinary bladder, and rectum. Frequently the relief is only for a short duration, certainly this form of therapy is limited. In cases where there is loss of control of the sphincters of the bladder and rectum and the patient is a poor surgical risk, this form of therapy seems to be one of choice.

MESENCEPHALIC TRACTOTOMY

This procedure is employed for the relief of pain in the upper extremities. Due to the inaccessibility of the spinothalamic tract and the adjacent structures, this procedure has not been generally accepted. The complications following surgery are often profound and the mortality rate is rather high.

RESECTION OF THE SENSORY CORTEX

This procedure is also limited, due to the technical difficulties, but may be employed in the treatment of pain associated with the phantom limb and post herpetic neuralgia.

TRIGEMINAL NEURALGIA

The employment of the retro-gasserian neurotomy by the subtemporal approach is the most commonly accepted form of therapy for this condition. The complications are not as many nor as severe as some writers would have you to believe. It may be useful to try alcoholic injection of the various branches of the fifth nerve, but as a rule

the pain is relieved only for a short time and finally the patient is subjected to the operation.

2. The posterior approach of the fifth nerve carries with it a higher mortality and the complications are greater. It should be reserved for cases chiefly where there is a possibility of a posterior fossa lesion producing the symptoms.

3. Tractotomy — This operative technique is used mainly for the ophthalamic division of the fifth nerve. Again this procedure has not been generally accepted as the operation of choice due to the complications following surgery.

RADICULAR PAIN

Whether the pain be cervical, thoracic or lumbar, it should be carefully evaluated and properly interpreted and a careful search should be made and the local cause be determined if possible. The most common cause of low back pain with sciatic radiation is a herniated disc. If it is due to a herniated disc the disc should be removed after a trial of conservative management. Good results are obtained in the majority of cases by early ambulation with leg and back exercises. Here again it is believed this condition should be relieved surgically before a severe psychic trauma has developed. If there is a tumor the treatment is surgical removal.

CERVICAL RIB

This should first be treated by section of the anticus scalenus muscle, unilateral or bilateral, depending upon the situation. If there is no relief of pain, then a surgical approach to the rib should be carried out with its removal.

NEURALGIA OF THE NINTH CRANIAL NERVE

This condition can be relieved by intra-cranial section of the ninth nerve.

In conclusion a proper search should precede symptomatic therapy for the relief of pain. The choice of therapy will depend upon the etiology and location of the pain. Some of these methods of choice may sound unreasonable and radical, but when one is dealing with such a formidable foe as pain, one must resort to the various tried methods of therapy which in some measure have brought relief.

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Editorial Comment: *Dr. W. A. Jones, after 13 years as Chief of the Neurosurgical Service in the Veterans Administration Hospital, Los Angeles, has recently entered the private practice of medicine in El Paso, and here presents us with a neurosurgeon's viewpoint as to the relief of pain. There can be no doubt that many of us have neglected this particular approach to pain relief. This paper should serve as a stimulus for further consideration of this particular phase of relief.*

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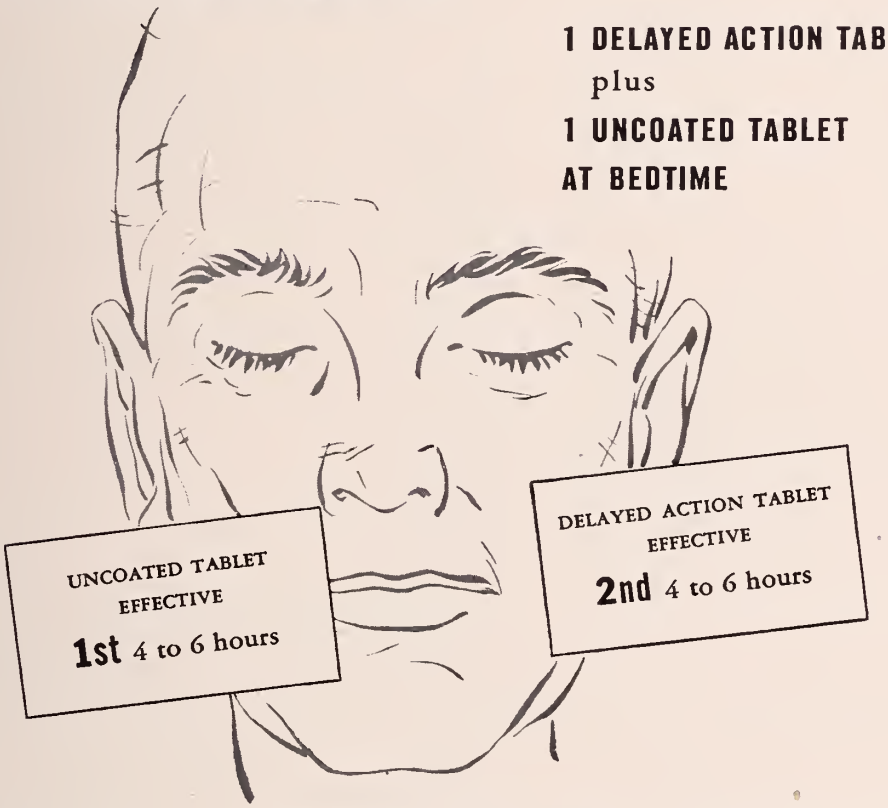
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REPORT OF FRACTURES AT EL PASO CITY-COUNTY HOSPITAL

From January 1947 to July 1948*

By Virgil R. May, Jr., M. D.† and W. Compere Basom, M. D., M. S.
in Orthopedic Surgery, El Paso, Texas

This report is based on a review of 250 cases of fractures that have been admitted to the fracture service of El Paso City-County Hospital. The report covers cases observed during a period of 18 months from January 1947 to July 1948. All these cases were admitted to the hospital wards and remained in the hospital at least 24 hours. None were reported that were treated only in the out-patient department.

As Darrach has stated, a fracture patient is an individual whose normal activities have been interrupted by injury. Frequently this injury has broken more than one bone. The damage is not only limited to bone but also to associated soft parts which are often of greater importance and need more attention than the fracture itself. In considering these associated injuries it is well to differentiate between the primary lesions occurring at the time of the accident and secondary lesions of trauma which occur during transportation, examination and treatment.

FRACTURED VERTEBRAE

A fractured vertebrae requires correction of the deformity, but if it is associated with cord injury the prognosis is changed as the injury becomes much more serious. Another example of associated soft tissue injury being more serious is that of the supracondylar fractures of the long bones in which vascular or neurological catastrophies may have occurred. If such has occurred consultation with other surgical specialists may be secured. After a bone has healed the patient still requires treatment in the form of physio-therapy. This is seen in fractured femurs in which the bone heals well but the patient is left with stiff adjacent joints.

The object of treatment of fractures is to restore to normal as quickly as possible not only the anatomy of the bone but the physiology of the extremity and of the patient himself. Therefore, unless proper attention is paid to these associated soft part injuries, the main objective is lost.

FIVE REQUIREMENTS

There are five requirements which should be met on any well organized fracture service. These are (1) reduction of secondary trauma to a minimum, (2) sufficient restoration of the fracture to meet the requirements of the specific case, (3) rest for the injured part during the healing process, (4) maintenance of function of the soft parts, (5) morale of the patient. We feel these requirements are given here through the facilities we have in the hospital and out-patient department.

The total number of fractures admitted numbered 325. Many of these fractures were multiple and in the same patient. It is obvious that many fractures of the small bones were treated as out-patient. We had many fractures of the clavicle, phalanges, fibulae and distal radius and ulna on the same side (Colles fractures) which were treated in the out-patient department and required no admission to the hospital wards. Even if the fracture patient required anaesthesia, it was given in the out-patient department and the patient allowed to return home the same day. The total number of patients observed in the out-patient department were 1209. Thus it can be seen that approximately three-fourths of the fracture patients were seen and treated in the out-patient department. Fractures of the ankle include all bones of the foot except the metatarsals and phalanges. Fractures of the hip are included with fractures of the femur.

CASE RECORD

Bone Involved	Number of Cases
Humerus	37
Radius	61
Ulna	41
Metacarpals	6
Clavicle	5
Scapula	1
Vertebrae	4
Pelvis	13
Femur	28
Patella	4
Tibia	63
Fibula	46
Metatarsals	4
Ankles	7
Phalanges	5
Total Fractures treated in Hospital	325
Total Patients seen in Out-patient Dept.	1209
Grand Total Fractures for 18 months	1534

MULTIPLE FRACTURES

Of the cases in which multiple fractures were seen include only these patients in which unassociated bones were involved. Fractures such as a humerus and tibia of the same patient are included in the multiple fracture series. Fractures of the radius and ulna or the tibia and fibula on the same side are not included. A total of 42 patients received multiple fractures. The majority of these were the results of automobile accidents.

As is true on all fracture services many more simple fractures are observed than compound fractures. During this period of observation, 38 compound fractures were treated. All cases are first seen in the dispensary. Here the well-being of the patient is determined as to shock and bleeding. Proper splinting is performed. The patients are then x-rayed, after which definitive treatment is begun. The compound fracture patients are taken to the operating room where under sterile conditions the wound is debrided and thoroughly irrigated with saline. At the time of this initial operation the fracture may be internally fixed. This, of course, depends upon the type fracture, amount of soft tissue damage, and under what conditions the fracture occurred.

(*Read before the monthly staff meeting, El Paso City-County Hospital. November 1948.)
(†Fellow Orthopedic Surgery. Northwestern University.)

SIMPLE FRACTURES

Simple fractures are treated at the time of admission either with traction or splints depending upon the type of fracture. If open reduction is contemplated the patient is allowed two to three days bed rest for full evaluation before surgery.

Of the cases treated in the hospital there were 54 open reductions performed and 192 closed reductions. Both the open and closed reductions are those which required anaesthesia. Frequently fracture cases do not require any type of anaesthesia, as there is no displacement of the fracture, or as in vertebral fractures in which only sedation is used. All that these types of fractures require is some form of immobilization.

In all cases both open and closed reductions are performed by the residents on the service under the supervision of the respective staff member. The pre-operative and post-operative course, as well as follow-up in the out-patient department, is also the responsibility of the resident.

The type of anaesthesia used in the cases are as a rule decided and administered by the resident physician. The various anaesthetics used were as follows:

Type of Anaesthesia	Number of Cases
Spinal	16
Ether	97
Local	24
Pentothal	47
Cyclopropane	3
Total	187

Since the resident physician has the responsibility of administering the anaesthesia, open drop ether is used in most cases, as we believe this has been found to be the safest general anaesthesia.

The number of deaths recorded on the fracture service were twenty-two. These deaths occurred mostly in patients who had been involved in severe automobile accidents in which multiple fractures were sustained with extensive soft tissue injuries. Another cause of death was in those elderly patients with fractured hips who died, while being prepared for surgery, of heart disease or pneumonia.

The fracture service at the City-County Hospital cares mainly for the indigent patient but any patient may be admitted for emergency treatment. Since the hospital is located near a large military reservation, accident cases frequently are admitted and treated, which are later transferred. There was a total of 37 patients who were transferred either to private hospitals or to the Army hospital. Only five patients signed their own releases from the hospital. All of these patients received emergency or definitive treatment at the City-County Hospital.

CONCLUSION

A total of 250 cases were admitted to the fracture service of the City-County Hospital from January 1947 to July 1948. All patients admitted are first seen and examined by the resident physician on the service. The care of the patient is the responsibility of the resident with consultation with the respective staff member. All closed and open reductions are performed by the resident under the supervision of the staff member.

REFERENCE

Darrach, William: Treatment of Fractures. Annals of Surgery, 124, 607-616, October 1946.

The Red Cross Drive

Southwestern Medicine wishes to remind its readers of the achievements of the Red Cross. It is the duty of each and every reader to boost the annual Red Cross campaign, not only financially, but by word of mouth. Last year, for example, more than 300 disasters occurred in widely separated areas.

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It is peculiarly fitting that the physicians support this campaign and assist in every manner in order that the generous response of the previous years be continued.

Sierra Meeting

The Sierra County Medical Society met February 15 at the home of Dr. and Mrs. T. B. Williams, Hot Springs, N. M. A resolution was passed to the effect that the Basic Science Law in New Mexico as it now stands is detrimental to medical care in this state. The scientific program was presented by Dr. Williams. Case presentation was that of Situs Inversus (Dextro Cardia). Following adjournment Mrs. Williams served a delicious lunch. Members present were: Drs. Cantrell, Hubble, Williams, and Johnson. Dr. Fulwider was a guest.—H. B. JOHNSON, M. D.

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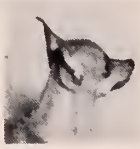
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COMPLETE NEW MEXICO MEDICAL SOCIETY MEETING PROGRAM ANNOUNCED

The complete program for the annual meeting of the New Mexico Medical Society, May 5-7, in Roswell has been announced by Dr. Van A. Odle, president of the Chaves County Medical Society, sponsor of the convention.

Papers will be delivered by seven outstanding medical speakers from all sections of the nation; and prominent physicians from New Mexico and the Southwest will lead the discussions during the three-day session.

There will be a complete program for the entertainment of visiting doctors' wives.

The guest speakers will be:

J. Mackenzie Brown, M. D., Professor of Otolaryngolcgy, University of Southern California Medical School, Los Angeles, California.

M. Edward Davis, M. D. Joseph B. DeLee Professor of Obstetrics and Gynecology, Chicago, Illinois.

T. Leon Howard, M. D., Associate Professor Urology, University of Colorado, Denver, Colorado.

E. Starr Judd, Jr., M. D. Head of Section in Division in Surgery, Mayo Clinic, Rochester, Minnesota.

F. T. Keating, Jr., M. D., Division of Medicine, Mayo Clinic, Rochester, Minnesota.

Earl D. McBride, M. D., Associate Professor Orthopedic Surgery, University of Oklahoma School of Medicine.

Armand J. Quick, M. D., Department of Biochemistry, Marquette University School of Medicine, Milwaukee, Wisconsin.

THE PROGRAM

THURSDAY, MAY 5th

9:00 A.M.—Meeting House of Delegates.
Opening Address: P. L. Travers, M. D., President New Mexico State Medical Society.
Welcoming Address: Van A. Odle, M. D., President Chaves County Medical Society.

Order of Business:
P. L. Travers, M. D., presiding

2:00-2:45 P.M.—Subject: Deafness.
Speaker: J. Mackenzie Brown, M. D.
2:45-3:00 P.M.—Discussion: Maurice Spearman, M. D., El Paso, Texas.
3:00-3:45 P.M.—Subject: Disability Evaluation.
Speaker: Earl D. McBride, M. D.
3:45-4:00 P.M.—Discussion: Dr. Edward Parnall, Albuquerque, N. M.
4:45-4:45 P.M.—Subject: Venous Thromhosis.
Speaker: Armand J. Quick.
4:45-5:00 P.M.—Discussion: Angus McKinnon, M. D., Albuquerque, N. M.

FRIDAY, MAY 6th

J. W. Hannett, M. D., presiding
9:00-9:45 A.M.—Subject: The Broadening Scope of Gastric Resection.
Speaker: E. Starr Judd, Jr., M. D.
9:45-10:00 A.M.—Discussion: John F. Conway, M. D., Clovis, N. M.
10:00-10:45 A.M.—Subject: Cystitis.
Speaker: T. Leon Howard, M. D.
10:45-11:00 A.M.—Discussion: A. W. Multhauf, M. D., El Paso, Texas.
11:00-11:45 A.M.—Subject: The Clinical Diagnosis of Hyperthyroidism.
Speaker: F. R. Keating, Jr., M. D.
11:45-12:00 Noon—Discussion: Ross W. Rissler, M. D., El Paso, Texas.
LUNCHEON—C. H. Gellenthein, M. D., presiding.
Medical: Drs. Keating and Quick.
Surgical: Drs. Davis, Howard, Judd, McBride.
ENT: Dr. Brown.
Leland Evans, M. D., presiding.
2:00-2:45 P.M.—Subject: Emergency Surgical Procedures on Intestinal Lesions.
Speaker: E. Starr Judd, Jr., M. D.
2:45-3:00 P.M.—Discussion: Robert C. Derbyshire, M. D., Artesia, N. M.
3:00-3:45 P.M.—Subject: Pain in the Arm and Shoulder.
Speaker: Earl D. McBride, M. D.
3:45-4:00 P.M.—Discussion: OPEN.
4:00 4:45 P.M.—Subject: Management of the Placental Stage of Labor and the Prevention of Hemorrhage.
Speaker: M. Edward Davis, M. D.
4:45-5:00 P.M.—Discussion: Lee Miles, M. D., Albuquerque, N. M.
8:00 P.M.—Banquet, Doctors and Their Ladies.

SATUURDAY, MAY 7th

A. D. Shuler, M. D., presiding
9:00-9:45 A.M.—Subject: Hematuris.
Speaker: T. Leon Howard, M. D.
9:45-10:00 A.M.—Discussion: OPEN.
10:00-10:45 A.M.—Subject: Rationale of Endocrine Therapy in Obstetrics and Gynecology.
Speaker: M. Edward Davis, M. D.
10:45-11:00 A.M.—Discussion: OPEN.
11:00-11:45 A.M.—Subject: Radioactive Iodine in the Treatment of Thyroid Disease.
Speaker: F. R. Keating, Jr., M. D.
11:45-12:00 Noon—Discussion: OPEN.

SECTION ON OPHTHALMOLOGY AND OTOLARYNGOLOGY

Thursday, May 5th

2:00-2:45 P.M.—Subject: Deafness.
Speaker: J. Mackenzie Brown, M. D., Los Angeles, Calif.
2:45-3:00 P.M.—Discussion: Maurice Spearman, M. D., El Paso, Texas.
Place: General Assembly.
3:00-4:00 P.M.—Diagnosis of Chronic Simple Glaucoma, a Symposium Conducted by: Drs. Schuster, Murphy and Peck.
Followed hy Open Discussion.
4:00-5:00 P.M.—Conservative Treatment versus Surgical Treatment In Acute Congrestive and Chronic Simple Glaucoma, a Symposium Conducted hy: Drs. Schuster, Murphy and Peck.
Followed by Open Discussion.

FRIDAY, MAY 6th

9:00-10:00 A.M.—Acute Sinusltis with Especial Reference to the Frontal: J. Mackenzie Brown, M. D.
Discussion: OPEN.
10:00-11:00 A.M.—Surgical Management of Acute Congestive and Chronic Simple Glaucome: Symposium Conducted by Drs. Schuster, Murphy and Peck.
Followed by Open Discussion.
11:00-12:00 Noon—Diagnosis of Otosclerosis and Recent Advances in Fenestration.
Speaker: J. E. Witcher, M. D.
Discussion: OPEN.
12:00-2:00 P.M.—Luncheon and Round Table Discussion.
2:00-3:00 P.M.—Chronic Sinusitis and Best Methods of Treatment Therein.
Speaker: J. Mackenzie Brown, M. D.
Discussion: OPEN.
3:00-4:00 P.M.—Diagnostic Problems of Strahismus.
Speaker: Weldon O. Murphy, M. D.
Discussion: Stephen A. Schuster, M. D., followed hy Open Discussion.

SATURDAY, MAY 7th

9:00-10:00 A.M.—The Tonsil and Adenoid Problem: J. Mackenzie Brown, M. D.
Discussion: OPEN.
10:00-11:00 A.M.—Diagnostic Problems of Strabismus: Weldon O. Murphy, M. D.
Discussion: Howard Peck, M. D., Albuquerque, N. M., followed hy Open Discussion.
9:30-11:00 A.M.—Surgical Management of Strabismus: Stephen A. Schuster, M. D.
Discussion: Weldon O. Murphy, M. D., Amarillo, Texas, followed by Open Discussion.

Mottled Enamel vs. Dental Caries

By W. E. Badger, M. D., Hobbs, New Mexico

During recent years much has been published on the subject of fluorine in drinking water and its relation to dental caries. This is a subject which should be of great interest to physicians in the Southwest, since many areas in this section contain admitted toxic amounts of fluorine in the drinking water.

The U. S. Public Health Department is at present carrying out an experiment in Newburgh, N. Y.; Grand Rapids, Mich., and Evansville, Ill. The experiment consists of adding sodium fluoride to the drinking water in the amount of 1 p.p.m. over a 10-year period. It is expected there will be a decrease in dental caries in the children who drink this water.

Apparently the public health service does not expect the occurrence of dental fluorosis in these same children who will be ingesting water containing 1 p.p.m. sodium fluoride during the period of calcification of their permanent teeth. Investigators who have done careful work on the occurrence of mottled enamel cannot agree with this view. In the opinion of one of them[1] the level of the fluorine in drinking water should not be above .01 p.p.m. and in water containing 0.9 p.p.m. 36 per cent show mottling in mild to moderate degree. Certainly if any such result is obtained in the cities mentioned, then one can imagine the feeling of parents who will find their children with permanently marked and unsightly teeth.

It would seem that more heed should have been paid to the work of investigators in the Southwest where mottled enamel is endemic, and who have consistently advised against using water with more than 0.7 p.p.m. of fluorine. It must seem to many who read the reports that the lowered incidence of caries in the fluoride areas is so slight that it does not warrant the risk of ingestion of a potentially toxic chemical. Indeed there is some evidence that the teeth of adults in these areas are abnormally diseased.[2]

1. Work to be published in an early issue of the American Journal of Pediatrics: Author, D.C. Badger, M.D.
2. Smith, M. C., and Smith, H. V.: Observations on Durability of Mottled Teeth, American Journal of Public Health. 30:1050 (Sept.) 1940.

THE NEW PROVIDENCE HOSPITAL IN EL PASO



This is the architect's drawing of the new Providence Memorial Hospital. It is expected to cost at least $2,500,000 and will provide El Paso with 300 additional beds. A total of $1,400,000 has already either been raised or pledged. Currently a drive to raise the remaining $1,100,000 is under way.

Ground recently was broken for the new $2,500,000 Providence Hospital, scheduled to add 300 beds to help alleviate the short supply which has plagued El Paso. This city, a rapidly growing commercial center, actually has lost or is scheduled to lose 100 beds through the demolition of two of its older hospitals.

The new hospital will be built at Blacker and Oregon Streets, adjacent to the Texas College of Mines campus. It is hoped that some day it may become a teaching hospital and eventually lead to the founding of the Southwest's first medical school at the College of Mines.

The main surgical suite of the new Providence will contain four major operating rooms; and a two-way, patient-nurse intercommunication system will be installed at the patients' bedside.

Other facilities will include an obstetrical floor with nurseries; an isolation wing for contagious diseases; a special pediatric wing; the Masonic Memorial Wing; the crippled children's ward; a laboratory and research department; and many other units essential to the operation of the most modern hospitals.

In future years the hospital area may be expanded into a multi-million dollar medical center, a move that will make it possible for El Paso more efficiently to serve a territory with a population of over 300,000. However, present efforts, a drive to raise an additional $1,100,000, are concentrated on the new hospital, the immediate urgent need.

Every attention within the new building will be given to the comfort and recovery of the patients. From the moment he enters the modern and handsome lobby until discharged, his surroundings will instill confidence.

A barber shop and a flower shop will be part of the main floor of the hospital, as well as a modern chapel, which has been designed to suit the religious tastes of all, whether Catholic, Protestant or Jew.

The new Providence Hospital's additional supply of beds will help ease El Paso's shortage of health facilities; but many such building programs must be completed before the West Texas metropolis can match the recommendation of the American Hospital Association of five beds for each 1,000 of population. Currently El Paso has 2.06 beds for each 1,000.

Looking to the future, however, the Providence Board of Directors has charted the expansion of years and even decades. These plans include a children's hospital, a chronic disease hospital, an out-patient clinic, a medical school and hospital allied with the College of Mines, and resident facilities to house young doctors and internes who serve the hospital during their training period.

Most important and first will come a top rank nurses' school, operated in conjunction with Texas College of Mines. This would be a great asset not only to Providence but to the entire Southwest; for schools of this type have never yet come close to catching up with the stringent shortage of nurses which began even before the war.

Providence Memorial Hospital is incorporated as a non-profit, non-sectarian, educational hospital and is managed by leading business men who serve on its Board of Directors without pay. Because it will also serve in the training of young physicians and medical students, the hospital was granted $500,000 by the Federal government. In addition $900,000 was raised or pledged in an earlier drive, leaving $1,100,000 as the objective in the current campaign to bring the total to the required $2,500,000.

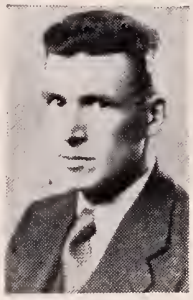
Physicians who will serve as members of the staff, will donate their services; and neither board members nor physicians will receive special privileges of hospital service.

THE USE OF ANTIBIOTICS IN SURGERY*

By Jonathan E. Rhoads, M. D.

Associate Professor, School of Medicine, University of Pennsylvania; Surgeon, Hospital of the University of Pennsylvania; Senior Surgeon, Children's Hospital of Philadelphia; Assistant Director, Harrison Department of Surgical Research, University of Pennsylvania

Of the various factors in surgical care that have reduced mortality in the past 10 or 12 years, the sulfonamides and the antibiotics probably deserve first place. The number of antibiotics developed during this period is in excess of 500. Yet, of all of these agents, only a very few have the combination of effectiveness against infectious agents and low toxicity against human tissues that makes them valuable in systemic therapy.



J. E. Rhoads, M.D.

It was an extraordinarily fortunate circumstance that penicillin was among the first of these agents to be discovered, for few, if any, of the therapeutic agents so far discovered have such a low toxicity.

Fleming, who discovered penicillin in 1927, was slow to recognize its potentialities in human disease. Much of the credit for this must be given to Florey and Chain, who began publishing their findings in 1940, and to the long list of men who followed them in developing this field. Penicillin remains by far the most valuable of the antibiotics, but we should now consider also streptomycin, dihydrostreptomycin, aureomycin, and chloromycetin. I will speak later, but not favorably, of bacitracin and polymyxin.

Penicillin was introduced at a dosage level of 80,000 to 100,000 units per 24 hours, and most of the good results claimed for it were first obtained at this level. The current practice of using 500,000 to 1,000,000 or more units daily has resulted in a prompter and more certain response of the patient, but, I believe, in a somewhat higher incidence of skin reactions.

The mode of action of penicillin is not well understood. It is sometimes effective in controlling **in vivo** caused by organisms that it is not very effective against **in vitro**. Two examples of this are cutaneous anthrax and mixed peritonitis.

Murphy, La Boccetta, and Lockwood had occasion to treat three cases of cutaneous anthrax in 1944. In spite of the fact that the organism was relatively insensitive, all three patients rapidly improved and recovered.(1)

The great limitation of penicillin is, of course, its failure to act against the Gram negative bacilli. When it first became available, therefore, it did not seem likely to be of much value against peritonitis resulting from perforation or necrosis of hollow viscera, such as the appendix. Fauley and his collaborators(2) were the first to present animal experiments that indicated that the mortality rate of appendiceal peritonitis could be lowered substantially by giving penicillin. This has been confirmed by Zintel and his associates(3,4) in our laboratory and elsewhere. It is substantiated by the clinical report of Crile Jr.(5) and by the recent report of Robert Brown and his associates in the Annals of Surgery.(6)

Much effort in the surgical research laboratories at the University of Pennsylvania has been directed at discovering what the most effective agent or combination of agents might be in the treatment of the mixed forms of peritonitis. Sulfanilamide, penicililn, and streptomycin were used singly and in combination. In spite of its polyvalency, streptomycin alone was inferior to penicillin. Whether the combination of the two is better than penicillin alone was not clear from the animal experiments, but there are certain reasons for believing that the combination may be superior.

One reason is the finding in the laboratories of Merck and Company that many strains of organisms that become resistant to one of these two antibiotics remain sensitive to the other.

Another reason is the result **in vitro** studies by Miss Anne Nichols.(7) As Figure 1 indicates, these two antibiotics show definite synergism for some organisms. When one is attempting to destroy all organisms in a mixed culture in which some bacteria are quite resistant to the action of penicillin and some are quite resistant to the action of streptomycin, the advantages of combining them are much greater, as shown in Figure 2.

FIG. 1

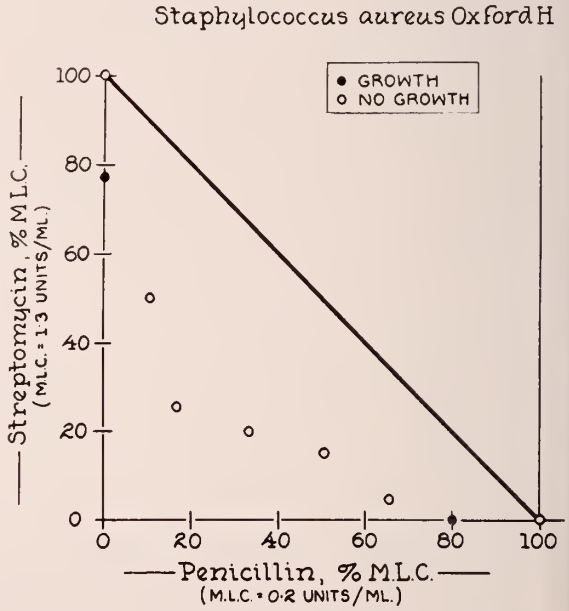


Figure 1.—Graph showing synergistic action of penicillin and streptomycin for Staphylococcus aureus (Oxford H). M.L.C.—Minimum lethal concentration (A. Nichols[7]).

*From the Harrison Department of Surgical Research Schools of Medicine, University of Pennsylvania and the Surgical Clinic of the Hospital of the University of Pennsylvania, Philadelphia.

*This paper was presented before the International Post-Graduate Medical Assembly, San Antonio, Texas, January 25-27, 1949.

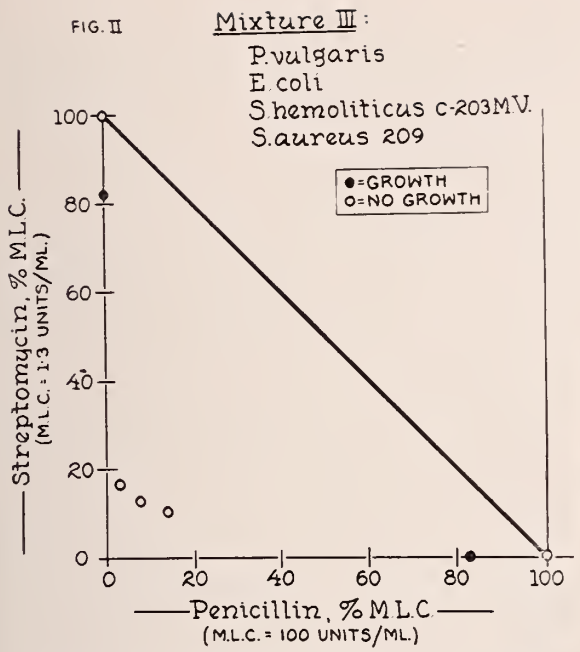


Figure 2.—Graph showing effect of combining penicillin and streptomycin on a mixed culture in terms of the minimum lethal concentration of each antibiotic when used alone. (Courtesy of Miss Anne Nichols).

Our current practice in the treatment of peritonitis or threatened peritonitis is to give 1,00,000 units of penicillin and one to two grams of streptomycin daily and then to support the patient vigorously so that the antibiotics will have time to act.

Since space does not permit a systemic review of our experiences with penicillin, I would like to summarize it briefly.

It is the most effective agent we have yet had in the treatment of boils and carbuncles. It may be injected locally in combination with procaine. Some surgeons do no more. It is our preference to do a limited excision to get rid of the necrotic tissues and to give penicillin systemically as well as locally. If patients are ambulatory, we often depend on oral penicillin in doses of 100,000 units every two or three hours. Axillary furunculosis, which used to inactivate some of our interns and nurses for five and six weeks at a time, is now, as a rule, quickly controlled with penicillin.

The results with penicillin in the treatment of chronic hematogenous osteomyelitis have depended largely on the adequacy of the surgical removal of the diseased tissue. In a series of 22 cases studied by investigators at the University of Pennsylvania (8) in which an adequate operative procedure was done, 90 per cent healed and 82 per cent were adjudged to have good results. When no operation was done, only one of eight patients had a good result. In chronic traumatic osteomyelitis, 67 per cent of the patients obtained good results when the operation was considered adequate. Poorer results followed when the surgical procedure was less satisfactory or when no operation was done.

In digitil osteomyelitis, recovery is now frequent. In a group of 11 such cases studied from the University of Pennsylvania, eight healed, and three were amputated. In retrospect, two of these cases probably had an inadequate trial of penicillin, as systemic treatment was only carried on for four and five days respectively.

A dramatic cure of a post-tonsillectomy lung abscess is shown in Figures 3 and 4. A surgeon was asked to



Figures 3a and 3b.—T. S.—Anteroposterior and lateral roentgenograms of the chest showing lung abscess before treatment.



Figure 4.—T. S.—Same chest seven days later after treatment with penicillin.

see the boy about drainage of the abscess, but it was never necessary.

The drug has been of great prophylactic value in lung resection for abscess and bronchiectasis. The experience of White and his collaborators in this field is shown in Figure 5.(9)

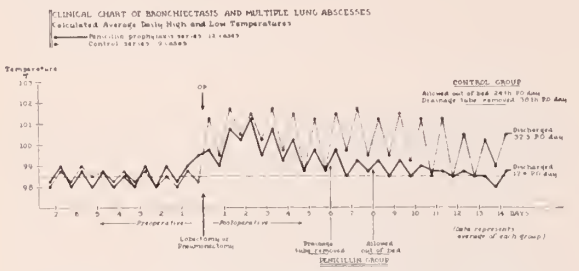


Figure 5.—Chart of mean high and low temperatures for two series of patients undergoing lung resections for suppurative lesions, showing the effect of the prophylactic use of penicillin. White, W. L. and associates.[9]

In soft tissue abscesses in osteomyelitis, Altemeier has used aspiration and local instillation of the drug successfully. White and Flippen(10) did the same thing in empyema thoracis and were successful in averting drainage in about one half of their cases. Aspirations were done daily, and as much pus as possible sucked out. A smaller quantity of saline solution containing 25,000 units of penicillin was then instilled through the same needle.

We have also cleared up breast abscesses in this way. Usually penicillin is given systemically as well. Undoubtedly penicillin is, at times, sufficiently effective so that the old dictum which states that "where there is pus, drain it" can be disregarded or honored only by aspiration. Nevertheless, our own feeling is that, in most of these cases, surgical drainage is still preferable, supplemented, of course, by antibiotic therapy. There is, of course, the objection that open drainage may permit the entrance of penicillin resistant organisms from the outside. However, if aspiration alone is tried, we feel it should be supplemented early by open drainage, unless the cavity closes very rapidly.

Mortality from carbuncles of the lip has almost disappeared.

Mortality from staphylococcus aureus septicemia, which was formerly estimated at 90 per cent, has dropped to below 15 per cent. Infections in the angle areas of the face with sinus thrombosis used to be almost always fatal. We have seen them get well with penicillin. Heparin was used as an adjuvant, but whether this is necessary is not established.

Mediastinitis is now frequently controlled. The prognosis in pericarditis is greatly improved. Many cases of meningitis due to meningococcus, streptococcus, staphylococcus, and pneumococcus recover.

Not only has penicillin had a profound effect on most of the infections which surgeons are called upon to treat, but it has also reduced morbidity and mortality from many of the common post-operative complications. At the Hospital of the University of Pennsylvania, the mortality of postoperative broncho-pneumonia dropped from 69 per cent to nine per cent following the use of sulfonamides,(11) and we feel that penicillin is still more effective. Urinary tract infections due to susceptible organisms are readily controlled, though they may recur after cessation of treatment if there are anatomical changes in the urinary tract.

Parotitis has not been as satisfactorily controlled as we had hoped, though localization of the infection seems better with penicillin therapy.

As experience with this antibiotic has increased, we have become more and more liberal in its use prophylactically. In fact, I usually insist that every patient of mine over 70 years of age receive it regularly as long as he is in the hospital.

In critical situations we still use a third hour dosage schedule, but, for the vast majority of patients, procaine penicillin is injected every eight or twelve hours in a dosage of 300,000 units per injection. The work of Altemeier has put the longer interval on a fairly solid basis.(12) Some of the oily preparations of penicillin need be given only once in 24 hours, but we have been hesitant to use them routinely because of the occasional late occurrence of sterile abscesses after the injection of other drugs in oily bases.

Streptomycin was introduced by Dr. Selman Waksman, who had been working on soil micro-organisms at Rutgers University in the Department of Agriculture for many years.(13) This drug has the great advantage of being effective against many strains of Gram negative bacteria as well as Gram positive organisms. It, therefore, has a wider spectrum of effectiveness than penicillin.

It will probably be remembered longest as the first antibiotic to achieve a place in the treatment of tuberculosis. It is specific for tularemia.

It has two great disadvantages. First, organisms build resistance against sublethal doses very rapidly. Secondly, while relatively non-toxic in therapeutic doses, it does have a specific toxic effect on nervous tissue, usually manifested first on the vestibular branch of the eighth nerve. Until the drug was employed in tuberculosis, its

danger for the eighth nerve was not recognized. However, if it is used in doses of two to three grams per day, perhaps half or more of the patients will have vestibular symptoms within four weeks. More recent experience indicates that this may be cut down substantially if the dose is restricted to one gram per day. The symptoms of vertigo, inability to focus on an object when the patient is in motion, and positive Romberg usually subside over a period of weeks or months. Barany tests generally indicate that the damage is permanent and that the apparent recovery is one of adjustment. There has been much discussion as to the site of injury. Experiments recently carried out by Winston, Lewey, Parenteau, Marden, and Cramer (14) upon cats seem definitely to indicate that the injury is central in the vestibular nuclei and that with large doses it spreads somewhat into surrounding parts of the brain. Injury was indicated by escape of toluidine blue from the circulation into the tissues.

In surgery, one of the special uses of streptomycin has been in preparing the large bowel for surgery. In Texas, I expect most physicians have followed Dr. Edgar Roth in using sulfasuxidine and more recently sulfaphthalidine for this purpose. The final answer to this problem is not yet at hand—some surgeons are now recommending a combination of drugs for this purpose. The results obtained by Zintel and his associates (15) in our laboratories using streptomycin orally are shown in Tables I, II, and III. Despite the fact that results are somewhat uncertain in any single patient with any of these drugs, it is our belief that their use has been of genuine help in carrying out resection and end-to-end anastomosis in the colon. The value of systemic chemotherapy should not be neglected either. Figure 6 shows the drop in the operative mortality in colon surgery in 1938, when we began to use sulfanilamide in these cases. It was not, however, until we had at hand the means of reducing the bacterial flora of the alimentary tract that we felt free to abandon the obstructive resection and do end-to-end anastomoses in the colon. Many of these patients now enjoy an almost afebrile convalescence.

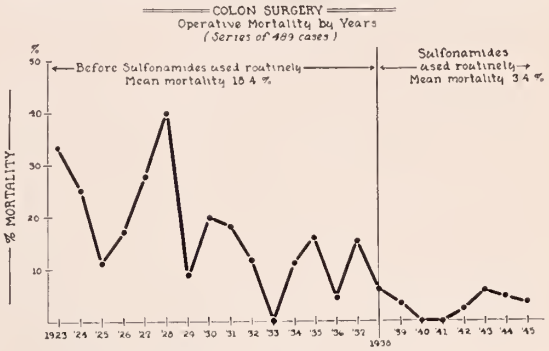


Figure 6.—Annual mortality experience in a consecutive series of patients undergoing operations on the colon at the Hospital of the University of Pennsylvania. 1923 to 1945.

The recent introduction of dihydro-streptomycin promises to give all of the beneficial results of systemically administered streptomycin with a lower toxicity. Whenever we have to carry out a surgical procedure for tuberculosis, it is our custom to start one of these drugs a few days before operation and continue it until two or three weeks or more afterwards.

Some strains of B. pyocyaneus and B. proteus are sensitive to streptomycin, and the drug has been useful in urinary tract infections due to them.

The next antibiotic which became available to us for systemic use was bacitracin, a product of a particular strain of Bacillus subtilis isolated by Meleney of New York. (16) This drug is more likely to give fever than streptomycin, but we used it fairly frequently until detailed study of the renal function by Dr. Alexander Michie revealed that it was seriously nephrotoxic. (17)

Polymyxin (or aerosporin as it is called in England) has not been studied thoroughly in our laboratories, but our preliminary experience with it was disquieting, and we now regard it as too toxic to compete with several other antibiotics—at least, in its present form.

There are, however, two new antibiotics just becoming available that hold real promise in special fields. The first of these is chloromycetin, developed by Parke, Davis and Co. Chloromycetin was first obtained from Streptomyces venezuelae. It has since been crystallized, its chemical constitution determined, and it has now been synthesized so that it bridges the gap between an antibiotic and a drug. It has been given to a number of patients with typhoid fever with dramatic results. (18) In one of these cases recently treated in Philadelphia the temperature dropped to normal in 48 hours, and, to all intents and purposes, the disease was over. The drug is

TABLE I

Effect of Streptomycin and Succinylsulfathiazole on the Number of B. Coli per Gram of Feces

Agent	Before	After 8 Days	After 8 Days in 85% of Patients
Streptomycin	74,836,060,000	418,000	262
Succinyl-sulfathiazole	23,700,000,000	150,000,000	98,857

TABLE II

Effect of Streptomycin and Succinylsulfathiazole on the Number of Streptococci Fecalis per Gram of Feces

Agent	Before	After 8 Days	After 8 Days in 85% of the Patients
Streptomycin	900,500,000	77,200	0
Succinyl-sulfathiazole	769,000,000	174,500,000	141,157,833

TABLE III

Effect of Streptomycin and Succinylsulfathiazole on the Number of Clostridial Organisms per Gram of Feces

Agent	Before	After 8 Days	After 8 Days in 85% of Patients
Streptomycin	33,030,000	539,900	200
Succinyl-sulfathiazole	15,090,000	1,047,000	71,218

given orally in doses of two to six grams per day. It is recommended that in typhoid fever it should be continued five days after the fever has passed. It has also been effective in preliminary trials against five Rickettsial diseases. In twenty-two cases of epidemic typhus (R. prowazeki) treated in Bolivia, temperature and pulse returned to normal in 54 hours or less in all cases.[19] The highest dose was 3.5 grams orally. In a case of endemic or murine typhus (R. mooseri), it was also successful.[20] In scrub typhus (R. tsutsugamushi or R. orientalis), twenty-five cases were successfully treated with a dosage of 50 mg. per Kg. at first and then 0.2 to 0.3 grams every two to four hours.[21] The last seven patients in this series were given six grams in the first 24 hours of treatment and no more. In Rocky Mountain spotted fever (R. rickettsi), Pincoffs et al[22] treated fifteen cases with a dosage schedule of 75 mg. per Kg. in two or three hours, followed by 0.5 grams every three hours in adults—(one half this amount under the age of 16). The temperature returned to normal within 76 hours in all cases.

Aureomycin is a product of the mold, Actinomycetes aureofaciens, which has been developed by Lederle Laboratories. It is given orally in a dose of one to four grams per day and acts systemically. It is excreted in the urine in good concentration. It has a wide spectrum of effectiveness, though it is not as potent an agent against some of the standard pyogens as is penicillin. It is not infrequently effective against strains that are resistant to penicillin and streptomycin. The response in a 40 year old physician who had an intraperitoneal infection with a corynebacterium which was resistant to other agents is

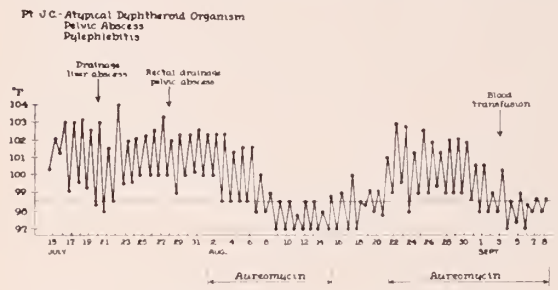


Figure 7.—Daily high and low temperatures in a patient with chronic intraperitoneal infection due to corynebacteria, showing the changes which occurred with the administration of aureomycin.

shown in Figure 7. There was no doubt in my mind that the use of the drug was the turning point in this patient's six months illness.

Aureomycin was used in three cases of typhoid fever by Dr Perrin Long and his associates[23] with good bacteriological and fair clinical results. It seems, on the basis of preliminary reports, that it will be likely to be displaced in this field by chloromycetin. Aureomycin has great potency against several of the Rickettsia, including bush typhus, Rocky Mountain spotted fever, and endemic typhus. It has also given promising results against lymphopathia venereum and granuloma inguinale. A longer period will be required to evaluate its effectiveness in patients with rectal stricture due to the former disease. In the latter disease, Wright and his collaborators[24] have used aureomycin in three cases with excellent results. These authors reported that a penile ulcer due to granuloma inguinale healed promptly after the drug was started.

It is too soon to say what the range of usefulness of this new drug may be in surgical patients, but, certainly, it can be called on for treatment of penicillin and streptomycin resistant strains of common pyogens, and it appears that it will have a special field of usefulness in Rickettsial diseases.

SUMMARY

Penicillin remains today the most valuable antibiotic for surgical patients. It has radically revised the prognosis in staphylococcus septicemia and in many infections of the meninges, the mediastinum, and the pericardium. It has had a remarkably beneficial influence in peritonitis.

In addition, it has been of great value in many minor infections, such as furuncles and carbuncles. It has improved the prognosis in hand infections and osteomyelitis. Its prophylactic use in long resections for suppurative lesions has been shown to reduce the incidence of empyema. Its value in the prevention of postoperative complications should be re-emphasized, and its prophylactic use permits great advances in geriatric surgery.

Streptomycin has been shown to have additional fields of usefulness in surgery. Dihydro-streptomycin, chloromycetin, and aureomycin now seem established as valuable antibiotics, and preliminary data on their effectiveness have been reviewed.

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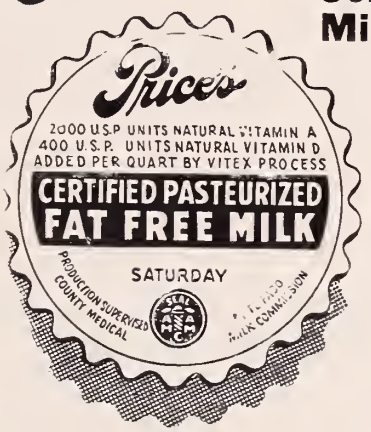
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TREATMENT OF FACIAL LACERATIONS AND DIAGNOSIS OF UNDERLYING PATHOLOGY

By W. W. Schuessler, M. D., and Dan N. Steffanoff, M. D., D. M. B.
El Paso, Texas

INTRODUCTION

The face and head—being the most commonly exposed part of the body—are subjected to frequent trauma from a multitude of causes. The resulting injuries vary from minor contusions, abrasions, mild or severe burns, to lacerations and avulsions of varying extents, with or without injuries of the underlying bony structures.

The introduction of high speed revolving machinery in industry, high speed motor vehicles, such as motorcycles, automobiles and airplanes, and the increased interest in the various sports, have increased the incidence and severity of bodily injuries, the face and the head having their respective increases. Home accidents also contribute a large number of maxillofacial injuries.

PURPOSE OF THIS ARTICLE

The purpose of this article is to emphasize the importance of early diagnosis of the accompanying unsuspected underlying injuries of the face and head and also to emphasize the importance of proper early treatment of the visible as well as the often hidden injuries, the neglect of which invariably results in a permanent deformity and disability.

Since the face is one of the most outstanding and prominent characteristic anatomical features in identifying the individual from millions of similar individuals, it becomes of paramount importance to the patient, who desires to maintain his identity, that every attempt be made to restore the traumatically altered face to its original recognizable physiognomy, or to effect a normal cosmetic as well as functional restoration.

DEFINITION OF TERMS

In this discussion, the term "face" will designate the anterior part of the head, namely, the forehead, the eyebrows, eye-lids, nose, mouth, cheeks, chin and the ears. The term "maxillofacial" will include in addition to deep and superficial soft tissue of the face, the underlying body architecture, namely, the parts of the frontal bones comprising the orbit, the maxillary bones, the maxillojugal components, the zygoma, the nasal bones, the nasal cartilages and the septum, and the mandibles.

CLASSIFICATION OF MAXILLOFACIAL INJURIES

For the purpose of simplicity of discussion, the maxillofacial injuries are divided into two groups, namely, the traumatic and the regional. This classification will suggest the course and the methods of arriving at the diagnosis of the possible pathological conditions that so often do not yield to simple diagnosis by a mere observation and palpation on the part of the examiner, nor to the simple diagnosis based on subjective symptoms. This classification will also suggest the therapeutic course. It is not, however, the intention of the authors to include in this discussion every possible maxillofacial injury.

A. Traumatic Classifications:

1. Impacts:
   a. with lacerations
   b. without lacerations
   c. abrasions
   d. contusions with or without hematoma
   e. fractures, simple, compound, etc.
2. Lacerations by:
   a. sharp implements
   b. dull objects
   c. dog bites
   d. human bites
3. Avulsed wounds by:
   a. impact
   b. sharp implements
4. Deformity following surgical excision for neoplasms.
5. Infections:
   a. exogenic
   b. dental origin
   c. following trauma
6. Burns:
   a. thermal (hot water, oils, flames, hot metals, etc.)

B. Regional Classification:

The regional classification of maxillofacial injuries is introduced here for the main purpose of making the examiner cognizant of a potential pathology of the underlying tissues, its symptoms and pathognomic signs beyond the grossly involved and visible topographical injury.

The point of contact of the traumatic agent to the face immediately will rule out some involvement of the distant body structures, or will suggest a probablye involvement of the underlying tissues, whether soft tissue—such as severed nerves, lacerated glands and their ducts, or fractures with or without displaced fragments of the underlying bony structures. This classification is based on the location of the injury.

1. Point of injury below the level of the mouth:

The point of traumatic contact below the level of the mouth and along the mandible definitely calls for ruling out any fracture of the mandible, or any injuries to the dental mechanisms, either on the lower or upper arch. The examination should include a thorough intra-oral inspection and palpation and a close examination of any laceration of the tongue, searching for parts of fractured crowns of normal or artificial dentures within the laceration. A fractured and posteriorly displaced symphysis mandibulae may cause a respiratory obstruction because the patient is unable to protrude his tongue voluntarily away from the pharynx. This is usually due to the posteriorly displaced origin of the genioglossus muscle, the latter being on the mental spine of the mandible on the posterior surface of the posteriorly displaced symphysis.

The mandibular arch, being a part of a circle, behaves somewhat differently from the long bones, when subjected to a blow, in that it invariably fractures in more than one location along the circle. One of the fractures

is at the site of the impact, while the second fracture is along any part of the circle. Thirty-one per cent of the mandibular fractures are double fractures. For this reason, the discovery of a single fracture line on the mandible should force the examiner to look for a second fracture line in the same side or on the opposite side, depending on the direction and force of the impact. Seventy-seven and four-tenths per cent of the double fractures occur along the mental foramen and the opposite angle of the mandible.

Ivy gives the following causes for peace time (1938) fractures of the mandible: Bare fist—49 per cent; falls—14 per cent; automobile (constantly on the increase)—8 per cent; extraction of teeth—5 per cent; football—3 per cent; and miscellaneous—21 per cent.

2. Point of injury above level of the mouth and below the eye-brows:

Because of the topographically larger area, it is self-evident that injury above the level of the mouth and below the level of the eye-brows involves proportionately a large number of anatomical structures. Here, the examiner should rule out a fracture fo the nose. Failure to reduce it in time will result in an additional loss of time for the patient later on. Moreover, the final result may not be as perfect as if originally reduced, because of the callus malunion, and also because the postponed correction calls for a great deal of operative skill, effort and time.

Recognition of the fractured maxilla and premaxilla shortly following the injury when followed by immediate proper treatment, will invariably effect a good cosmetic and functional restoration.

A depressed orbital fracture, because of a fracture of maxilla, or malar bones, when neglected beyond the regenerative period of the bone, will not only fail to yield to near normal reduction, but will incapacitate the patient permanently, unless other reconstructive procedures are undertaken in order to elevate the eye-ball and eradicate diplopia.

A blow on the cheek, anteriorly, anterio-laterally or laterally, will fracture the malar bone and the zygomatic arch, which fracture may be missed by the routine x-ray films. It is among the commonest of the fractures that pass undiagnosed within the first few months following injury.

A fracture of the mandible, even with the slightest displacement, will result in some malocclusion, which may not be evident even to the patient during the first few days following injury. When such a fracture is undiagnosed and not treated, it may result in non-union.

Fractures of the coronoid process or of the neck of the condyle, which are difficult to visualize by routine x-ray studies, should always be suspected when the patient has some subjective symptoms in the involved area or when no other reason is discovered for the present malocclusion, or trismus. When the fracture is complete, the attachment of the temporal muscle on the coronoid process rotates the fragment superiorly in the line of pull. The attachment of the external pterygoid muscle on the condyle pulls the fractured condyle downward and medially, the degree and the direction of displacement depending on the level of the fracture.

Fractures of the cusps or entire crowns are rather common findings with or without fractures of the mandible, maxilla or premaxilla.

The presence of injury to the soft tissue of the face always should suggest the necessity of determining existing motor or sensory loss and the fact of its presence or absence should be recorded in the operative findings. The parotid gland including its duct may also be lacerated, the neglect of which may result in a salivary fistula, the correction of which, very frequently, is a difficult problem. The severed nerves should be repaired if the wound is not too old and infected.

The external auricle, because of its rich blood supply, withstands extensive trauma. Subperichondreal hematoma should be drained to prevent the development of cauliflower ears. Lacerations of the auricle, no matter how severe they may appear, or even though completely avulsed or practically amputated, usually respond well to gentle debridement of skin margins and cartilage, careful suturing and a firm and evenly distributed pressure dressing. Every little part of the auricle saved will eventually shorten the reconstructive efforts on the part of the Plastic Surgeon.

Vertical lacerations of the eye-lids as a rule tend to contract and produce ectropion, because the lid margin lacks a vertical support except by the action of the weak orbicularis oculi muscle. For that reason, a careful debridement is of the utmost importance to reduce the ragged edges of the laceration and to promote rapid healing with the least amount of scar formation.

3. Point of injury at the level of and above the eye-brow:

When the force of the impact is so great as to cause a severe laceration of the forehead or the scalp, there is invariably a visible or palpable fracture on the exposed external table of the cranial cage, which may or may not be accompanied by any immediate objective or subjective neurological findings. Here, the possible delayed intra-cranial complications cannot be suppressed by merely closing the soft tissue wound. The case should be followed by a complete radiological study and a close observation.

One or both frontal sinuses may have been invaded by severe laceration and by fracture of the anterior wall of the frontal sinus.

The superior orbital arch may be depressed partially, or along its entire length, or in combination with some of the intra-orbital bony lining, resulting in the various forms of strabismus, depending on the muscles involved. Occular injuries often result from these fractures.

TREATMENT OF FACIAL SOFT TISSUE INJURIES

Here, as in injuries elsewhere on the body, treatment will be dictated by the causative agent and the extent and the age of the wound. A wound inflicted indoors with a sharp cutting implement calls for some modification in treatment as compared to the treatment of a wound inflicted outdoors and by a dirty implement. The latter calls for a therapeutic dose of tetanus antitoxin, while the former may be considered as a potentially clean wound.

Because of the extremely rich vascular blood supply of the entire face, the closure of facial wounds differs from closure of wounds anywhere else on the body, in that the former may be closed over a longer post-traumatic period, extending even up to 48 hours, depending on the appearance of the wound and the judgment of the operator. Debridement here plays a more important role because of the limited amount of tissue and because

of the constant exposure of the face to daily observation. A poor closure of the wound, resulting in a disfiguring scar, because of improper debridement, may have a demoralizing effect on the patient and also will stand out as a constant discredit to the operator, to haunt him and his reputation.

Lacerations about the eye-brows, the eye-lids and the lips should merit special mention because of the too frequently encountered poor postoperative results, namely, improper alignment of the continuity either of the hair line, mucous membrance or vermilion border. The eye-brows should never be shaved either as a preoperative procedure in an elective surgery around the eye, or in an emergency repair of the eye-brow itself. Shaving of the eye-brow invariably results not only in a displacement of lacerated tissues, but also in a cosmetic objection, since the growth of the eye-brow is a slow process. In repair of these structures, a correct alignment is of prime import.

In lacerations about the face, every effort should be made to locate and remove all foreign bodies.

Following a gentle debridement for the removal of the ragged and devitalized skin margins, using tissue hooks and a sharp scalpel instead of mouse-toothed tissue forceps and scissors, hemostasis should be controlled, and then only the severed underlying vital structure should be repaired before undertaking the closure of the wound. The closure should be accomplished in layers, using either 4-0 plain catgut, or white cotton No. 80 or 120, in order to prevent dead space and accumulation of tissue fluids, which are prone to become infected, especially in a wound contaminated because of its age. If the wound is not infected, when the tissue fluids are well organized, they produce deep seated scars, which when they contract later on, distort the perfectly sutured margins and perfectly healed suture line. The type of suture material has little effect on the final outcome of the healed skin margins. It is the caliber of the needle and the suture material, and the manner in which they are used that determine the cosmetic appearance of the scar.

The least visible suture line is produced by the use of the least traumatizingn needles, small caliber sutures (black silk, stainless steel, or horse hair), tissue hooks, and by undermining the skin margins in order to relieve tension on the skin sutures. Vertical mattress sutures offer a better retention than simple interrupted sutures, and at the same time, they evert the skin margins. Properly employed subcutaneous closure relieves all the tension on the skin sutures and offers their earlier removal. The suture should approximate the skin margins without strangulating the tissue within its loop.

More extensive wounds may require shifting or rotating flaps for their closure, while still larger wounds, with loss of soft tissue substance, may require immediate skin grafting.

Wounds resulting from human and dog bites should have a thorough debridement. The use of chemotherapy and biologics should be entertained in the treatment of every wound of the face.

DO NOT OVERLOOK MAXILLOFACIAL FRACTURES

While it is not within the scope of this paper to elaborate upon the detailed management of maxillofacial fractures, the authors wish to stress the importance of the possibility of an existing fracture in the presence of a wound, which recognition is of great significance preoperatively. The wound may offer the best avenue for the three dimensional visualization of the fracture, as well as the only logical approach for its reduction. To attempt its diagnosis and treatment following the closure of the wound, a practice commonly encountered, results in delayed diagnosis and reduction—often over a period of weeks or months.

A clinically demonstrated or diagnosed maxillofacial fracture should be confirmed by x-ray films preoperatively, not only as a means of arriving at a better therapeutic plan, but also as medico-legal evidence of the extent of the injury, regardless of the reason for the legal complication. A post-operative x-ray film of a properly reduced fracture is always a satisfaction, not only to the patient, but also to the operator. Also, it is a definite tangible protection to the operator, whether in or out of court. In ordering x-ray films, be specific as to the view desired, as indicated by the suspected pathology. Unless the suspected or involved bone is clearly individualized on the film by the various roentgenologic positional techniques, one should place little confidence in the negative roentgenologic reports.

In order to appreciate the symptoms and signs of maxillofacial fractures and their appropriate application in the diagnosis of the bone involved, the various forms of fractures are here mentioned: greenstick, simple or closed, compound or open, comminuted, impacted and depressed, and possible rotation of small fragments. It is self-evident that not all the fractures will demonstrate the entire series of symptoms and findings given below; however, the fracture will demonstrate some combination of these signs and symptoms:

1. Pain—aggravated by movement or palpation.
2. Tenderness on pressure over the fracture or pressure along the bone involved.
3. Disability—loss of function—if function could normally be demonstrated.
4. Numbness—damage to sensory nerve.
5. Salivation—stimulation of salivary glands.
6. Discoloration — extravascular blood visible through skin and mucosa.
7. Deformity—due to distortion of normal topographical anatomy.
8. Mobility of stationary bone or abnormal mobility of articulated bone is a pathognomic sign of fracture.
9. Crepitus—also a pathognomic sign, but avoid demonstrating it for the purpose of diagnosis (invariably it is painful and traumatizing).
10. Palpable line of fracture, except in greenstick fracture, rule out existing old fracture by history.

SUMMARY

1. A new classification of maxillofacial injuries is discussed.

2. The treatment of soft tissue laceration of the face is outlined.

3. The importance of suspecting and diagnosing maxillofacial fractures is stressed, giving the symptoms and signs of fractures in general. The necessity of confirming or ruling out any fractures by roentgenologic study prior to repairing a facial wound is also stressed. A negative roentgenologic report should not be relied upon as

conclusive evidence of non-existing fractures, unless each suspected bone is individually visualized by the various roentgenelogic positional techniques.

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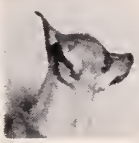
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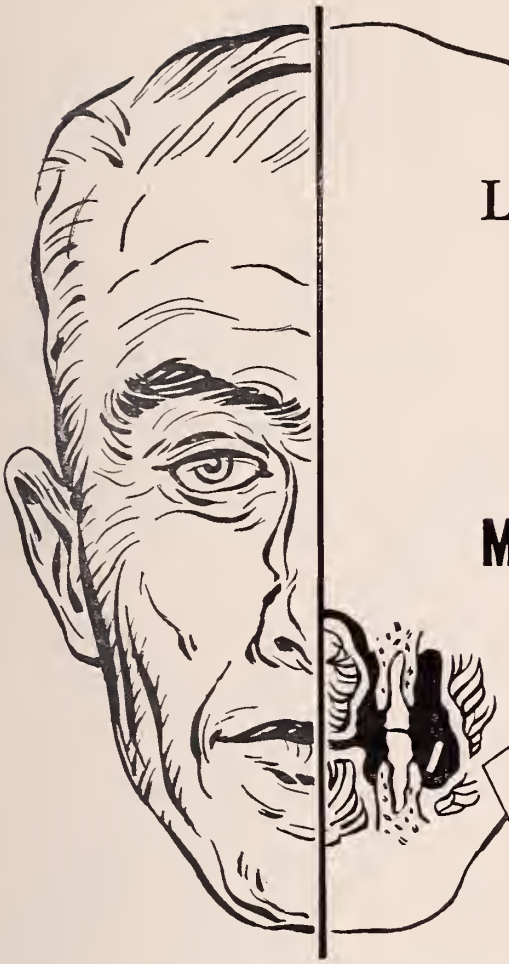
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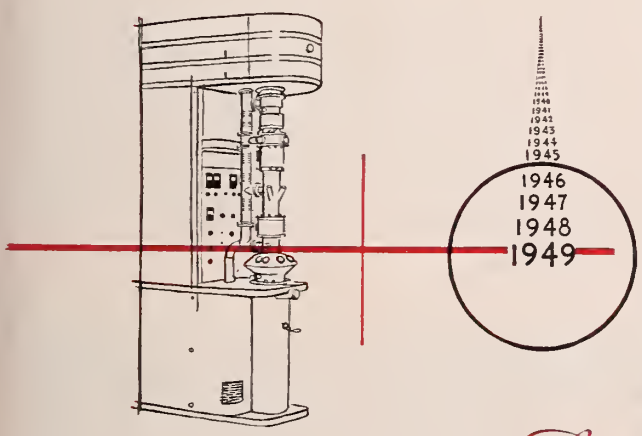
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1. Undecylenic Acid and Psoriasis, editorial, J.A.M.A. 139:460, 1949.
2. Perlman, H. H.: J.A.M.A. 139:444, 1949.

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Ne'er a penny fee.
This paternal caring
For the ailing and the sick—
Will it be a cure-all
For the body politic?

HOSPITAL ENCROACHMENT

THE dictionary defines a hospital as an institution in which sick or injured persons are given medical and surgical treatment. This does not imply that a hospital should act as a physician. Hospitals today render services of radiology, pathology, anesthesiology, and physical therapy in direct competition to the specialists who attempt to follow their respective professions. These same hospitals depend on the physicians in their communities for their ability to keep their doors open.

Is it necessary that a hospital enter the practice of medicine to remain economically sound? Is it a fair practice for the hospitals to enter competition with the interests that sustain it? Whether the medical profession approves or not, it is unlikely that hospitals are going to stop practicing medicine, unless a firm and concentrated action is taken by interested parties to prevent this.

In the state of California, the question of legality has been raised. The medical societies of California have

requested that the law step in and abate the hospitals' practice of medicine. The general practitioner, internist, and surgeon are apt to sit back and say, "I'm sorry, but there is little or nothing that can be done about it."

Does the surgeon realize that there is reason to believe that in the very near future the hospitals may well hire surgeons who will be able to perform appendectomies at, let us say, a cut rate?

In a recent meeting of the American Hospital Association in Atlantic City, the following question was vigorously discussed: What are the steps that have been taken to control unnecessary surgery in hospitals?

It is interesting to list the conclusion drawn from the discussion of this question:

"First, that the board of trustees of a hospital through the administrator as co-ordinating judge, is responsible for all surgery performed in the hospital.

"Second, this responsibility necessitates annual review of the character, loyalty, medical and surgical conscience, and qualifications of all surgeons on the surgical staff by a board-appointed 'Credentials Committee' of the staff.

"Third, at least two reasons why surgery is performed unnecessarily are greed on the part of the surgeon, and excessive ambition on the part of the young physician."

The statement that unnecessary surgery is being performed in any hospital is highly debatable; but apparently for some reason, economic or otherwise, the hospital association accepts it as factual. Conclusion No. 3 constitutes a major indictment against the speciality of surgery by lay boards of trustees or hospital administrators, who have little or no medical or scientific knowledge to support this type of indictment.

Could these findings be construed as a method of rationalizing eventually that employment of a salaried surgeon to practice his art in direct competition with the surgical specialists in his community. This "holier-than-thou" attitude can well cover the hospitals' real reason for entering this competition. The hospital is not primarily interested in how well this surgery is done. It is interested in increasing its revenue.

Let us face facts. In many teaching hospitals today physicians have their offices within the institutions, and turn their fees over to the hospitals. This practice has become so prevalent that, for example, in the state of Massachusetts arrangements are under way whereby the physicians' services in the hospitals are to be billed separately in the name of the practitioner.

Hospitals, like any business, are interested in decreasing deficits; and, if they continue to practice medicine, eventually they may well enter into competition with every practitioner of medicine, no matter what his particular field may be. This is, indeed, an extremely serious matter.

In the ranks of our profession, we have such men as Dr. Channing Frothingham, past-President of the Massachusetts Medical Society, who describes himself as "a Republican and a member of the American Medical Association," who believes that many doctors would support the Federal Health Insurance Plan, "if they knew the real facts instead of the distorted picture circulated by the A.M.A." It has been suggested that the A.M.A. withdraw its approval of the hospitals that engage in the practice of medicine or in the exploitation of their own medical staffs.

Apparently the A.M.A. is reticent about doing this. If they continue to be as reticent as they have been in the past with men like Frothingham in our ranks, the time may well come when the medical profession will find itself in this predicament. **The hospitals will be practicing the medicine, and it will be a comparatively simple matter to integrate into socialized medicine some 5000 general hospitals and leave some 200,000 private practitioners of medicine out in the cold.**

PROFESSIONAL PROCUREMENT
(THE DOCTOR DRAFT)

There is every reason to believe that early in 1949 an attempt will be made by Congress to amend the Selective Service Act to supply physicians to remedy the shortage of medical officers in the expanded armed forces. The medical profession has always, and will always, accept its role toward the prevention of war. It has been said by some individuals that perhaps demobilization took place too early, but surely it is true that this opinion is not held by the majority of physicians who wore the uniform in either World War I or World War II.

There have been, justifiably, many "gripes" regarding the physician's service in World War II. The present Surgeon General is making every effort to eliminate the major complaints, but it is highly questionable that military service can be made sufficiently attractive to induce physicians to enter on a voluntary basis. Very recently, for example, the pay has been raised for army medical officers. However, this increased in pay has not attracted additional personnel.

It has been estimated that the Army needs 3540 general practitioners and 400 specialists. The Surgeon General believes that the citizen army should not be staffed completely by regular army officers, but should be reinforced by civilian physicians on temporary military duty. There is a divergence of opinion as to the number of physicians the military really needs. Dr. William Dock is of the opinion that the army's wants are exaggerated. He openly states that the army desires one physician for every 165 men, and that the public is supposed to get along with one physician for every 800 individuals. Dr. Dock has a point which he makes very definitely; that is, the expected incidence of illness and injury among healthy young men between the ages of 18 and 40 is probably only one-quarter of the incidence in the general population. Hence, why should the army need almost five times as many doctors? This question and similar questions must be considered and acted upon early in 1949.

The Army and Air Force are considering initiating a Professional Personnel Procurement Program. A recommendation is made that a sub-committee be appointed to be called the Professional Manpower Committee, to be headed jointly by an outstanding local physician or surgeon, and an outstanding dentist. The duties of this committee are set forward in the communication as follows: "Members of the Professional Manpower Committee could be expected to serve as local spokesmen for the Army Medical Department and for their respective professions in contact with local profession-school students, interns, residents, and those professional people now engaged in practice. Other functions can be sug-

gested for them as the program develops. The Military Manpower Committee itself should support the Professional Manpower Committee's undertakings and make available its publicity and liaison channels throughout the community."

This in itself does not sound obnoxious, and represents simply an attempt on the military's part to voluntarily obtain personnel. However, there may be a joker so far as this committee's work is concerned because in another part of the communication from the same source, the following statement is made: "The first project to be undertaken by the Professional Manpower Committee could be a survey to determine the community's resources in terms of this program, and the number of people in each profession who might be considered prospective volunteers for military service. Each professional society or association should be asked to co-operate in surveying the profession it represents. In the case of quotas which some national professional groups may have adopted, these quotas can be projected against the community's resources."

The president of the local medical society will undoubtedly be called upon to designate the physician member of the Professional Manpower Committee. This will be a thankless task for both the president of the society and his appointee because he will be required to give some statement as to who might be considered as a prospective volunteer. Individual volunteers are apt to be rare. Extreme discretion will, by necessity, have to be exercised in order that the spirit of fair play be maintained throughout this procedure. Basically one must remember that the volunteer system of procurement has certain outstanding faults. The majority of physicians are perfectly willing to do their duty so long as their brother physicians are doing theirs as well, but, in the vernacular, hate "to be played for suckers." The voluntary system is, in reality, unfair. It rewards the self-seeker, and penalizes the willing and conscientious. It must also be realized that the volunteer system up to the present has been found wanting, in terms of the present professional personnel procurement.

Whether the medical profession approves legislation relative to the procurement of physicians depends on whether that legislation is fair and efficient. If it is, the profession will respond as it has in the past, regardless of the personal sacrifices that may be entailed.

It is well to remember, however, that there are many physicians who only recently have been able to develop their practice following a term of service in World War II. These physicians will not look with great favor upon any program which attempts to place them back in the service. While Congress's contemplated action will undoubtedly chiefly concern the doctors who were trained under ASTP and V-12 at government expense, apparently the number of physicians in these categories will not be sufficient for military needs. Additional practitioners must be obtained. Whether these men will enter the service by the volunteer system is questionable, and, should they be procured, extreme discretion will have to be exercised by those entrusted with this irksome duty.

We are not at war. We are simply training an armed force. Would it not be possible for members of the medical profession who were unable to serve their country in World War II because of minor physical disability to serve as medical officers in permanent installations in a training program such as is contemplated by the armed forces at the present time?

EL PASO COUNTY MEDICAL SOCIETY TUMOR CLINIC

A total of 187 cancer cases were handled last year by El Paso County Medical Society's Tumor Clinic, which was recently moved from City-County Hospital to 408 East Overland Street.

The Society's committee in charge of the clinic is headed by Dr. J. Richard Fuchlow and has as other members Drs. Russell L. Deter, M. S. Hart and H. F. Heslington.

The clinic is supported by funds from the American Cancer Society through its local lay organization, the El Paso County Unit of the American Cancer Society.

Regular weekly meetings are held in the clinic, where any doctor can bring a case for discussion of diagnosis and proper treatment. An average of 14 local physicians attended these weekly meetings last year. None received any financial remuneration for this work.

The clinic was recently given official recognition by the American College of Surgeons as an approved clinic.

A total of $5000 was given by the American Cancer Society last year for the clinic's work.

Newest addition to the clinic is a loan closet consisting of equipment and appliances, a gift of the Business and Professional Women's Club. The closet has been named the Ruth Lester and Martha Plummer Memorial Loan Closet for two El Paso women who died from cancer last August. Both women were members of the B. and P. W. Club.

Items in the closet are for patients with cancer or for those convalescing from treatment of cancer. They are loaned to patients at the request of their physicians. All such requests must be cleared through Mrs. Tommie Sadler, nurse in charge of the clinic.

In speaking of the closet, Mrs. Charles C. Carpenter, who is immediate past president of the B. and P. W. Club as well as executive secretary for the Cancer Information Center, said:

"Of necessity or by choice, many of those suffering from cancer remain at home during the greater part of their illness. The general shortage of hospital beds restricts the use of available accommodations to those who appear to be curable, or who, at least may be reasonably benefited.

"Moreover, the expense of prolonged hospitalization is beyond the means of most families. Others prefer to remain at home because of the chronic nature of cancer, or when the hospital is far removed and distance prevents frequent visits of family and friends."

The clinic has a filing system that will keep the medical history, slide and x-ray of each cancer case under the same file number.

Equipment for the system includes a four-panel viewing box, a micro-projector, an examining table, a sterilizer for instruments, a micro-slide filing cabinet, an x-ray slide filing cabinet and a delineator.

Nine nationally-known figures in their respective specialties have been brought to El Paso since January, 1948, to conduct tumor clinic meetings and to address El Paso County Medical Society sessions.

This was made possible through funds of the American Cancer Society and through special funds of the Cancer Control Division of the Texas State Board of Health. Each of these tumor clinics was devoted to the specialty of the visiting speaker.

THE VALUE OF POST-OPERATIVE RADIATION IN CANCER OF THE BREAST--WHEN, WHY AND HOW*

By Theodore P. Eberhard, M. D. and Paul C. Swenson, M. D.
Department of Radiology, Jefferson Medical College Hospital, Philadelphia, Pa.

In any intelligent cancer treatment our purpose is to kill malignant tissue or at least to render it inactive. We now believe that there is little use in speaking about sublethal doses for the general purpose of slowing down the growth of cancer cells and thereby discouraging metastases. This procedure was considered rational in past years for both pre- and post-operative irradiation of the breast; but subsequent experience has taught us that the so-called prophylactic irradiation has no valid purpose. It is as important to give a cancericidal dose to one single remaining cancer cell as it is to a million such cells. If, therefore, there is reason to believe that there is residual disease after operation; it should be treated with full effect, not prophylactically.



Paul C. Swenson, M.D.

The problem of the treatment of post-operative carcinoma of the breast then resolves itself into two problems: first, which cases to treat, and second, how to treat them. If a prudent decision is to be made concerning the treatment of the individual case, we must know several things. We must know the size of the original tumor, its location, something about its duration, the condition of the overlying skin, the relation of the tumor to the underlying fascia, the histologic nature of the growth, and the extent of the involvement of the regional nodes. The age of the patient probably makes little, if any, difference.

FACTORS DISCUSSED

It will immediately be apparent that these above factors are those concerned with operability and surgical curability as discussed by Haagensen and Stout in their article on the criteria of operability.[1] They are also also the same factors which enter into the Steinthal classification of breast tumors[2] and the malignancy index of Gordon Richards.[3] We believe in our clinic that the Haagensen-Stout[1] criteria or the Gorden Richards[3] indices should be rigidly observed by the surgeon before operating. That means, of course, that the surgeon will not operate on any case, which has the Haagensen-Stout[1] criteria of inoperability, or with a high Richards[3] index.

Unfortunately, too many surgeons do not observe these criteria, and thus the problem of the radiotherapeutist is made doubly difficult; and the importance of his acquiring all of the information possible about the pre-operative status of the patient is increased.

SALVAGE RATE

In all of the analyzed series previously mentioned, it was demonstrated that a salvage rate for five years of eighty-five percent or better should be obtained in truly operable or Stage I cases. These series also demonstrate that the majority of those patients who are not saved by operation die of distant metastases. In the borderline group, or the Steinthal II classification, there will be a large percentage of supraclavicular metastases which develop after operation; whereas not over ten percent will show local recurrence in the lungs, chest wall or axillary wound. All of these conclusions are, of course, based upon the supposition that a sufficiently radical procedure has been done with meticulous care. In the Steinthal III classification or the definitely inoperable group of Haagensen and Stout[1] one may expect extensive local recurrence as well as supraclavicular metastases. Naturally, nearly all of these cases will sooner or later show evidence of distant metastases.

SEEDS PLANTED

Now what does this mean to the radiotherapeutist? It means, first of all, that if a case were truly operable or surgically curable and operation properly done, post-operative radiation of the operative area and the supraclavicular region is not indicated. These people die of distant metastases, the seeds of which were planted either before or at the time of the operation. The therapist cannot radiate the entire body sufficiently to destroy cancer in any or all locations. He must restrict his attack to the most likely area. When there is no "likely" area, then such restriction becomes rationally impossible and the therapeutist is forced to the reluctant conclusion that he can do nothing but wait until clinical evidence of metastases gives him a target at which to aim.

Now, unfortunately, the radiotherapeutist seldom sees the patient himself before operation. He is, therefore, forced to depend upon the reliability and veracity of the surgeon; and, as every therapeutist knows, he must learn to know his referring surgeon. The therapeutist must learn to recognize an adequate operation when he sees one. If inadequate skin removal is done, and large amounts of subcutaneous fat and even muscle are left in the operative field; and, further, if a full, well-padded axilla remains, he knows that his general criteria for applying x-ray treatment are of no value. The patient **may have been** operable, but she was not adequately operated.

SPECIAL CLASS

A very few of these apparently operable cases fall into a special class which can only be identified by the pathologist. An extremely small palpable mass may show wide-spread infiltration throughout the fat of the breast. A very careful examination of the axilla may disclose nodes which could not be palpated pre-operatively and which nevertheless contained cancer. The pre-operative classification of the case is thereby automatically changed by the post-operative findings. Upon the latter the therapeutist must base his decision.

In these admittedly borderline groups a detailed knowledge of the histologic findings is essential. If the tumor turns out to be well differentiated, situated far out

*This paper was presented before the International Post-Graduate Medical Assembly, San Antonio, Texas, January 25-27, 1949.

toward the nipple in a large breast and to be one which has metastasized by embolus to a single low anterior axillary node, the supposition can be that an adequate operation will have removed all of the local disease. Another tumor of the same size and the same location and with the same single node metastases may show diffuse infiltration in the fat and breast parenchyma, leading one to the conclusion that even the most radical procedure in the zone between the skin and ribs can hardly have removed all of the tumor cells. A third tumor, again of the same size, but in the inner quadrants of the breast, may well be expected not to show any axillary metastases. These tumors are more likely to metastasize directly to the supraclavicular region and into the mediastinum by way of the internal mammary lymphatics. Crossed metastases to the opposite breast and axilla are more common from this last type of tumor. A lesion in a very small breast, and particularly one in the upper inner quadrant again will confront the surgeon with an almost insurmountable problem. The patient may have been clinically operable, but the histologic findings will show that she was technically inoperable.

INOPERABLE CASES

Finally there are the inoperable cases by classification, which have had the misfortune to have been operated upon unwisely. Most of the time the tumor in such cases will show recurrence throughout the operative field, but a detailed knowledge of the clinical and histologic findings may indicate the most likely area in which a palpable subcutaneous nodule may be expected to appear. A mass felt in such an area would thus be suspicious of tumor, whereas elsewhere one might temporize with a small mass if, for example, it suggested a lesion accompanying a retained non-absorbable suture.

In all of the more advanced cases, the natural history of the tumor and conclusions based on statistical evidence give the radiotherapeutist one or more logical targets. These are, in the order of their frequency of involvement, (1) the medial supraclavicular region, (2) the high axilla, (3) the mediastinal nodes and, (4) the operative area itself. Local recurrence or regional metastases are likely to occur in these areas at any time. The conclusion seems fairly well established that prompt, thorough, post-operative radiation will sterilize these areas and prevent painful disfiguring secondary growth in a considerable proportion of cases. It will not destroy distant deposits which have already been seeded, but in a small number of instances it may prevent the spread which would occur if a regional focus were allowed to continue to develop. We, therefore, believe that all of these cases should receive post-operative irradiation to the supraclavicular area and that most should have the high portion of the axilla included in the field and that the medial quadrant lesions should have the mediastinal nodes treated. Having once made this decision the only problem remaining is that of getting an adequate dosage into the desired area with as little damage to underlying and surrounding tissue as possible.

BASIC TECHNIQUE

In the more usual situation, we attempt to deliver radiation to the supraclavicular region and the upper axilla. Our basic technique involves the use of an anterior field 10 x 10 cm. or 10 x 15 cm. extending from after the most radical surgical procedure, have a great tendency to recur. In this case a field covering the sup- the suprasternal notch out across the supraclavicular fossa and down along the slope of the thoracic cage. It is obvious that a portion of the lung field is included in the radiation in this field; but this is unavoidable, since the lymphatics draining the breast are draped rather profusely over the curve of the chest wall. A similar field is used posteriorly. These fields supply crossfire to the whole area from the angle between the sternocleidomastoid muscle and the clavicle, which is the site of the most commonly involved palpable nodes, outward and downward as far along the path of the axillary vessels as it is desired to go in the particular case. It is quite possible to install these fields with the patient sitting up in a chair. It is our general custom to give a sufficient dose (measured in air) so as to deliver about 3500 r to the coronal plane of the crossfired region.

THIRD FIELD

A third field directly into the axilla, is used to supplement these two. The necessity or even the desirability of using this field may be possibly open to question. If the original tumor was one which could be expected to do its damage primarily toward the medial aspect of the thorax; and if the patient is a large individual in whom the distance from the medial supraclavicular fossa to the axillary field is large, one probably accomplishes very little beyond giving the patient considerable pain and discomfort in the axilla. Incidentally, care must be exercised that the anterior and posterior fields do not also crossfire the axillary skin; for the reaction in this intertriginous area is sufficiently severe with the one field alone. In the small or average sized person, an air dose of 2500 r to each of these fields will usually produce a total tissue dose of 3500 r or better in all portions of the irradiated block of tissue. In a large individual it may be necessary either to replace the axillary field or to supplement it by a small field delivered directly to the medial supraclavicular region vertically from above.

In cases of borderline operability which have been adequately operated and in which the original tumor was in the outer half of the breast, we feel that treatment of the foregoing fields is all that is necessary. Our dosage varies from 200 r per day to one field up to 200 r per day to each of two fields, depending upon the patient's reaction to the radiation. We use 200 Kv. radiation with a half value layer of .95 MM. of copper. The order in which the fields are treated makes no difference, but the treatment must be given at least five and preferably six, or even seven days a week.

AXILLARY FIELD OMITTED

When the tumor is in the upper inner quadrant, we omit the axillary field and add an anterior mediastinal portal. This should cover the area from the suprasternal notch down to a point at least well below the site of the tumor, going as close to the xyphoid process as we can. We try to avoid carrying the field so far down that we irradiate the upper portion of the stomach. This field need never be over 10 cm. wide and in the majority of the cases can be reduced to a square 6 cm. or 8 cm.

Beyond these basic techniques there are a number of variations which depend upon the characteristics of the individual case. For example, an ulcerating tumor situated far out in the axillary tail of the breast will, even

posedly involved area is used and is treated with medium voltage rays in the neighborhood of 140 Kv. and a half value layer of .5 mm. of copper. Again we believe that a tumor dosage of at least 3500 r delivered in a period of between two and a half and four weeks is the optimum. Faster treatment than this, with the same dosage, leads to excessively severe reaction. Protraction of the same dosage beyond four weeks results in persistent tumor as does lesser dosage. Higher dosage, like inadequate treatment resulting from protraction, leads to excessive reaction and late necrosis in the treated areas.

PROPHYLACTIC RADIATION

We should again emphasize that there is no such thing as prophylactic radiation in the ordinary sense of the word. When the surgeon sends a patient to us with a request for prophylactic radiation, he usually means "just a little radiation." He has in mind inactivating cells or blocking lymphatics or "just killing off those few cells that were left." Unfortunately, radiation doesn't work that way. It is almost similar to cutting off just a small part of the tumor. It takes a definite amount of radiation to devitalize any tumor. We don't know, of course, exactly how radiation does act on tumors; whether it acts entirely on the cancer cell directly or whether it is a devitalization or secondary effect resulting from vascular changes and connective tissue damage.

In any event, whatever the answer may be, it is logical to assume, and observation seems to bear out the impression, that a certain amount of radiation is just as necessary to kill one cancer cell as it is to kill ten million cells. Therefore, if one is going to treat these cases at all he should treat them with the hope of arresting any tumor growth completely in the treated area. In other words, the treatment may be prophylactic only in the sense that one is treating an area in which disease is not positively known to exist. It may better be termed palliative therapy in the sense that one is reasonably sure that distant metastases will occur. But so far as the treatment itself is concerned in the local area, it is curative therapy, and nothing less than curative therapy is justified. One has only one opportunity to kill cancer cells by radiation in the vast majority of instances and that is at the first time of treatment.

SECOND ATTACK

Occasionally one may attack the failures a second time and succeed, but this is indeed rare. It is especially rare with a growth such as a cancer of the breast which has such a tremendous tendency to metastasize as it develops. We also believe that there is very little point in administering so-called prophylactic radiation six to eights months after operation. Time and again we encounter surgeons whose wound-healing in certain cases has been poor and who, therefore, send patients in for post-operative prophylactic radiation after a relatively long post-operative period. To our minds this is illogical. These patients will undoubtedly have already shown a spread of the tumor if there is ever going to be any. Most of the time, they already show signs of local recurrence, if they belong to the group which will do so anyway within less than three or four years. We are, of course, forced to treat most of these cases under duress and against our better judgment; but we believe a constant attempt should be made to educate surgeons in the natural history of carcinoma of the breast and in the real potentialities of radiation therapy when intelligently administered.

SUMMARY

In summary then, our plan of post-operative treatment for cancer of the breast is briefly this:

1. No post-operative treatment whenever we know the surgeon is reasonably confident that all malignant tissue has been adequately removed.
2. A full cancericidal dose is given to those areas most frequently found to harbor metastases. The areas treated will depend on the operative findings, natural history and general characteristics of the tumor.
3. If post-operative therapy is to be given at all, no prophylactic dose by definition is considered adequate.
4. Recurrences are thoroughly treated as they become clinically manifest.

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Scientific Transcriptions

Recording of scientific papers by means of transcription is rapidly gaining favor. At many conferences the speaker's microphone is connected with a recording apparatus, or in some cases, several recording apparatuses, and the speaker's remarks are thereby made in the form of a permanent record. These records have great value for teaching purposes, both for undergraduates and for post-graduates.

It might be well in cities of the Southwest to consider the feasibility of introducing a system by which transcriptions could be made of the scientific proceedings of local medical societies, special societies, and staff meetings of hospitals. The material would then become a permanent record and could be used for reference at future dates or could be re-edited and published so that more people could benefit from the subject matter.

Influenza Center

An influenza information center has been established at the National Institute of Health in Maryland. It has for its function principally the prevention of pandemic influenza, such as was seen in 1918. This information center will serve as a liaison office between the international influenza center, established at the National Institute for Medical Research in London, and the participating American laboratories.

The proposed plan is that, when a significant outbreak of respiratory disease is reported in a given community, the information center will see that serologic tests are carried out on patients for the presence of antibodies against the influenza virus. Attempts will be made to isolate any new virus, and the information center will study the data received and attempt to have the appropriate strains of virus considered for inclusion in commercial vaccines.

An Invitation From The American Academy Of General Practice: Twenty-One Questions And Answers

Because probably three-fourths of the 2,000 readers of SOUTHWESTERN MEDICINE *are general practitioners the editors take pleasure in publishing this summary of the nature and purpose of the newly-organized American Academy of General Practice.*

—

1. What is the American Academy of General Practice?

The American Academy of General Practice is a national association of general practitioners of medicine and surgery.

2. What are the requirements for membership?

To be eligible for membership a candidate must be a graduate of an approved medical school with a minimum of one year of rotating interneships in an approved hospital, a member of his county medical society, licensed to practice medicine and surgery in the state of his residence, of high moral and ethical character. He must have shown interest in continuing his medical advancement by engaging in post-graduate education.

3. What is meant by the term "general practitioner"?

A general practitioner is a licensed physician and surgeon who holds the degree of M. D., and who does not limit his practice exclusively to a particular field of medicine or surgery.

4. How much postgraduate training is required of candidates for membership?

The by-Laws of the Academy require that a candidate for membership shall have been engaged in the general practice of medicine for at least three years preceding the date of his application. During this period he must have shown interest in continuing his medical advancement by engaging in some postgraduate educational activities.

Postgraduate educational activities include attendance at hospital staff meetings, county, state, and national society meetings, refresher courses and formal courses, or rotating residencies conducted by approved institutions.

5. What must a member do to retain his membership?

All active memberships terminate at the end of three years. To be eligible for continued membership, a member must have spent a minimum of 150 hours during this three year period in postgraduate training of a nature acceptable to the Membership Committee. Any of the activities listed above will count toward fulfillment of the 150 hour requirement during a three year period.

6. What are the objectives of the Academy?

The basic philosophy of the Academy is: Improved standards and quality in general practice among the general practitioners who render more than 80 per cent of the medical care furnished in this country today will react to the great benefit of all the public and all the medical profession.

The objects and purposes of the Academy as set forth in its Constitution are as follows:

(1) To promote and maintain high standards of the general practice of medicine and surgery;

(2) To encourage and assist young men and women in preparing, qualifying, and establishing themselves in general practice;

(3) To preserve the right of the general practitioner to engage in medical and surgical procedures for which he is qualified by training and experience;

(4) To assist in providing postgraduate study courses for general practitioners, and to encourage and assist practicing physicians and surgeons in such training;

(5) To advance medical science and private and public health.

7. Why was the Academy formed?

The American Academy of General Practice resulted from a spontaneous movement among groups of general practitioners in a number of states who were convinced that progress and advancement in the general practice of medicine and surgery was basic to the welfare of the people of America and the medical profession.

Years ago various groups of specialists established standards and undertook programs for the elevation of standards and quality in specialist practice. The specialists established and enforced their own standards; no outside group could do this for them.

The same is true of general practice. The trend toward overspecialization is a matter of serious concern among most leaders of the profession and among medical educators. The best way to counteract this unhealthy trend is to make better general practitioners who, through self-improvement, can command the respect of the public and a place of esteem in the profession.

To improve the quality of general practice it is necessary that increased emphasis be placed on broad clinical training in the medical school curriculum. It is also necessary that facilities for postgraduate education for general practitioners be greatly expanded. These goals represent the chief aims of the Academy.

The wonder is that a movement by and for general practitioners, through a national scientific organization of their own, founded on the premise that advancement in general practice will benefit all the people and the entire medical profession, was not initiated years ago.

8. Does the Academy advocate that all general practitioners be permitted to perform surgery in all hospitals?

No. The Academy recommends that proper requirements be maintained for staff privileges in all hospitals. It recommends that hospital privileges be extended to all licensed physicians on the basis of competency. Specifically, the Academy will do all in its power to assure that every competent general practitioner be privileged to hospitalize any of his patients who require hospital facilities. The Academy endorses official actions taken by the American Medical Association, the American Board

of Surgery, and other interested organizations opposing any hospital regulations which confine staff membership or the right to perform certain medical and surgical procedures to specialists who have been certified by the respective specialist boards.

9. What is the relationship between the Academy and the American American Medical Association?

The Academy recognizes the American Medical Association as the parent organization of the medical profession in America. Its aim is to work in cooperation and close harmony with the American Medical Association. Membership in the A. M. A. is a prerequisite for membership in the Academy, and any member of the Academy whose membership in the American Medical Association is terminated will lose his right to remain a member of the Academy. In its endeavors to improve the quality of general medical and surgical practice in America the Academy intends to work closely with the Council on Medical Education and Hospitals of the American Medical Association, the Committee on Rural Health, and the Council on Medical Service, as well as the other councils and bureaus of the A. M. A.

As evidence of its endorsement of the American Academy of General Practice, the A. M. A. Board of Trustees has appointed three official representatives to serve on the Academy's "Coordinating Committee." One represents the Council on Medical Service, one the Council on Medical Education and Hospitals and the third the Board of Trustees. Also serving on this committee are representatives from the American Hospital Association, the Catholic Hospital Association, Advisory Board of Medical Specialties, and other allied organizations.

10. Is the Academy connected with the Section on General Practice of the A. M. A.?

Not officially. It expects to cooperate unofficially with the Section on General Practice. Neither does the Academy have any official connection with the mid-winter meeting of the A. M. A., which in 1948 was designed for general practitioners.

11. Does the Academy propose to establish a certifying board in general practice?

No. In years to come a certifying board of general practitioners to examine candidates engaged in general practice may be feasible, but such is not the present intention of the Academy.

While the Academy does not plan to conduct examinations of candidates for membership, membership for the general practitioner in the Academy corresponds to a certification by a board for the specialist.

12. What will be the relationship between the Academy and the specialty boards?

The Academy intends to carry on its program in cooperation with the specialty boards wherever such cooperation is indicated as desirable. The Academy does not intend to duplicate the activities of the specialty boards, of the American Medical Association, of the American Hospital Association, or any other national medical organization.

13. How does the Academy expect to increase the quality and raise the standards of general practice in America?

In the same way the specialty societies have raised the standards and increased the quality of specialists practice in the country. The Academy intends first to encourage general practitioners to pursue graduate study by attendance at their county, state, and national medical society meetings, their hospital staff meetings, clinical pathological conferences, and special courses. Furthermore, it hopes to raise the general level of the quality of general practice in the country by establishing a standard toward which general practitioners will be expected to strive. To achieve this standard they must keep up-to-date and continue their medical education each year.

Also, the Academy, through cooperative efforts with the American Medical Association and the American Association of Medical Colleges, expects to improve the teaching of the general practice of medicine and surgery in medical schools. By improving the quality of medical teaching and by stimulating postgraduate courses and extension courses to be conducted by medical schools, the Academy hopes to raise the general level of the quality of medical care throughout the country, including rural areas.

14. How many members are there in the Academy?

The American Academy of General Practice was founded June 10, 1947, by a group of men firmly convinced that general practice is the basic foundation of good medical care in America. Immediate enthusiasm was apparent. Since that date, applications have been coming in from every section of the country, and there are now nearly 10,000 members representing every state in the union, the District of Columbia, and Hawaii.

15. How many members does the Academy expect to have?

There are approximately 135,000 members of the American Medical Association. Of these, approximately 40,000 are specialists. Thus there are nearly 100,000 general practitioners. It is hoped that eventually all of these who are qualified will become affiliated with the American Academy of General Practice.

16. How is the Academy governed?

A Congress of Delegates is the official policy making body of the Academy. It is composed of delegates from each constituent state chapter. The Board of Directors, which is the executive body of the Academy, is under the control of the Congress of Delegates.

17. When will annual meetings of the Academy be held?

The first regular annual Scientific Assembly of the Academy was held in Cincinnati, Ohio, March 7, 8, 9, 1949. The second annual Assembly is tentatively scheduled to be held in Atlantic City in March of 1950.

18. Is the Academy a "political" organization?

No. The Academy will naturally lend its support to other medical organizations which oppose political or socialized medicine, but such activities are not among the principal objectives of the Academy. The founders of the Academy have recognized the fact that the surest way to overcome efforts to socialize medicine is to re-establish the general practitioner—the family doctor—as the keystone of health professions, occupying his rightful place in the citadel of medicine, and enjoying the respect and confidence of his patients.

19. How do I become a member?

By filling out an application form and mailing it to

the secretary of your state chapter or to national headquarters, together with your check covering the admission fee and state and national dues.

20. How much does it cost?

National dues are $15.00, payable each January 1. There is a $10.00 admission fee, making the total for the first year $25.00. The national dues of new members are prorated triannually.

21. What else can I do to help?

By soliciting the membership of your friends and colleagues engaged in general practice and by aiding in the establishment of a county or district branch in your area, if none already exists. The Academy will send you a model Constitution and By-Laws for component branches along with other information concerning the establishment of component branches at your request.

For further information or membership blanks write:
Headquarters, American Academy of General Practice
406 West Thirty-fourth Street
Kansas City 2, Missouri.

"Twelve reasons why I intend to lend my support to the successful passage of the Wagner-Murray Bill":

1. I could retire at age 65.
2. I could work hours that suited me.
3. My pay would not be dependent on my ability.
4. My income would be assured—not much, but assured.
5. I feel certain that I would fool part of the people part of the time.
6. I could refer all my patients to the hospitals and save home calls.
7. Any serious cases could be referred to specialists and let them worry about it.
8. My overhead would be reduced since all I would need is a prescription pad.
9. I could take an extended vacation each year without loss of practice.
10. My nights would be my own.
11. My Sundays and holidays would be free.
12. I'm naturally very lazy.

New Type Of Artificial Kidney

A new type of artificial kidney has been developed in Philadelphia, at the Jewish Hospital. This artificial kidney is made up of plastic plates separated by thin sheets of cellophane.

Grooves cut into the plastic serve as channels in which the blood flows on one side of the cellophane membrane; a "perfusate" solution of glucose in saline flows on the other side. When the two streams run through the apparatus, various nitrogenous waste products are transferred from the blood to the "perfusate" by osmosis.

This new artificial kidney in its present form weighs only ten pounds and is much less bulky than the original artificial kidney which was devised in the Netherlands. It is hoped that this new device will obviate the use of such procedures as peritoneal lavage which were far from satisfactory because of severe technical difficulties.

The Physicians' Afternoon-Off

While the labor leaders have been clamoring for a forty hour week, the various police chiefs in Rhode Island are of the opinion that the physicians time should never be his own. In the vicinity of Providence, Rhode Island, the police chiefs have devised, or perhaps better said, are attempting to devise a system by which the local physicians "stagger" their days off.

The minions of the law have complained very bitterly that on Wednesday afternoon, which is the traditional afternoon-off in Rhode Island, it has been impossible for them to obtain emergency service of physicians. While, it may be well that some sort of a rotating system be instituted so that adequate medical coverage may be obtained, it would seem logical that this arrangement could be adequately made by the practitioners themselves without the interference of any law-enforcing agency.

However, at the present time it seems to be highly popular in belief that the medical profession is the one profession that needs regulation, and this interference could possibly be interpreted as being of a political nature, rather than a social one.

To Our Highball-Consuming Readers

Dr. Norman S. Moore of Cornell University, New York, states that supplementary Vitamin B in the form of thiamine is not necessary to offset the ravishes of the highball. Apparently if a sufficient intake of food is present, then supplementary thiamine may be dispensed with. This does away with the old misconception that if one were to imbibe, that one should eat Vitamin B complex tablets.

In the course of carbohydrate breakdown, pyruvate is formed which requires thiamine in order to oxidize to acetate. Alcohol, however, apparently is oxidized to acetate without passing through the pyruvate state, and thereby requires no thiamine.

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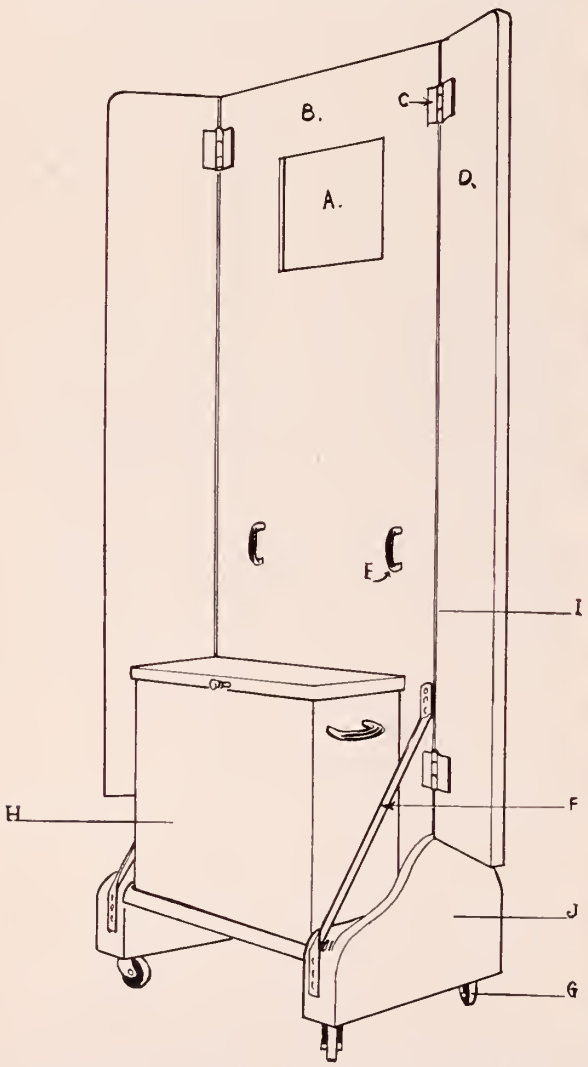
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Mobile Lead Protective Screen With Film Storage Chest for Small X-Ray Room

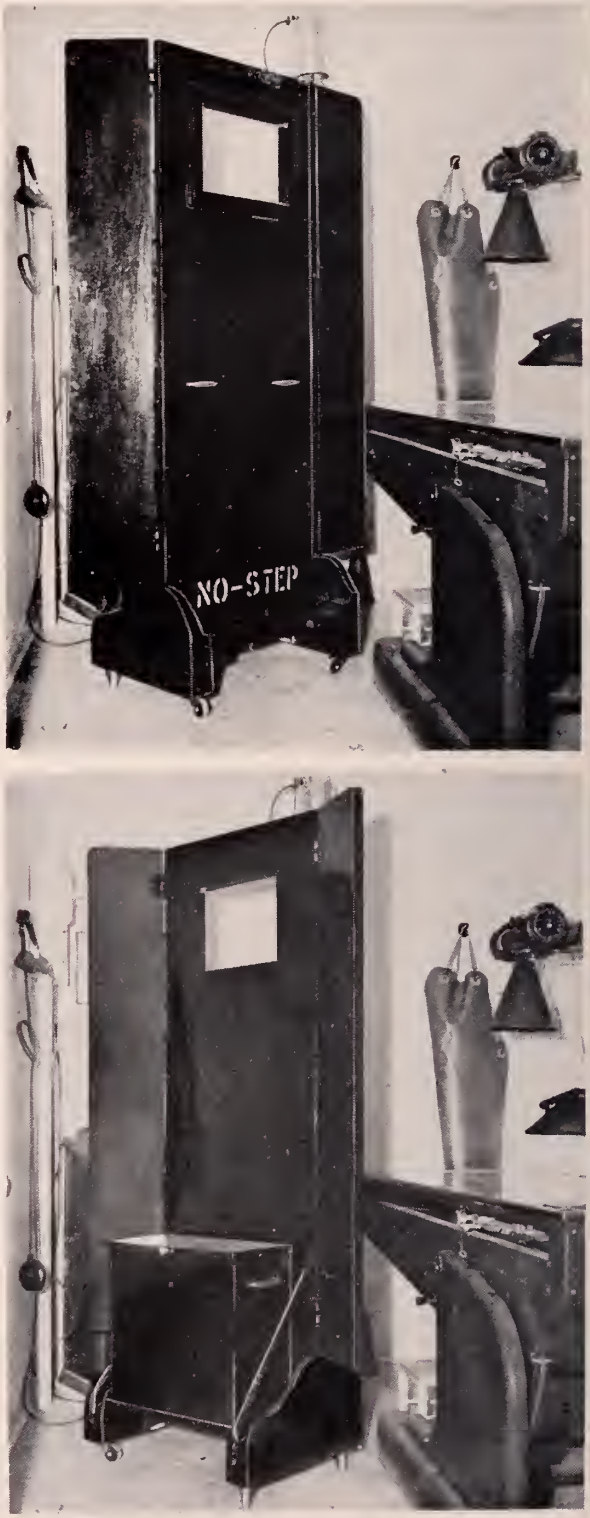
Material needed to build this screen with the exception of the leaded glass, sheet lead, and metal film storage box may be obtained from any hardware store and cabinet shop. The lead sheeting and glass and film storage box are obtained through your regular surgical supply or x-ray company. It can be built by any carpenter and to your own dimensions. Hence it is suitable for small space. The one described is in use in a room containing a 100 MA X-ray machine, the room dimensions being 9½ x 11 ft. This of course necessitates close operation to the tube and hence greater secondary radiation.

Leaded glass for the window is mounted at eye level in the middle panel, which is 3/4 inch plywood 59 x 24 inches, covered by 1/16 inch sheet lead and 1/4 inch



A. 12-16 inch leaded glass.
B. Middle panel ¾ inch in plywood, 1/16 inch sheet lead ¼ in plywood.
C. 3 inch wrought iron hinge.
D. lateral panel (same as B).
E. Metal kitchen cabinet handles.
F. Iron brace.
G. Ball bearing bed casters.
H. All metal film storage chest. 1/16 inch lead lined (16½x19x8 inches).
I. Angle iron brace 1½x¾ inches.
J. Base and legs.
Dimensions.
Height from floor 6 feet 2 inches.
Width wings folded 2 feet. Open 3 feet 6 inches.
Width base 17 inches.
Dimensions base 17x24 inches.

Diagram, from rear, of mobile x-ray lead screen with film storage chest.



Front (upper) and rear (lower) views of Dr. Haire's mobile x-ray lead screen with film storage chest.

plywood of the same dimensions. This is bolted to two hardwood legs 17 inches long forming the base and allowing for five inches of leg to extend in front and 1½ inches in the back. Space between the back legs is covered with 1/4 inch plywood to hold the metal film storage chest and add sufficient weight (90 pounds) to prevent tipping.

Four ball bearing bed casters are mounted as shown in diagram, and the middle panel is strengthened on each side by angle iron braces (1½ x 3/4 inches). two lateral panels, 9 x 58 inches, made of 3/4 inch plywood, 1/16 inch lead sheet and 1/4 inch plywood are attached by two wrought iron hinges on each side. Further bracing is obtained by bolting two iron bands to the middle panel and back legs. Metal kitchen cabinet handles are mounted front and back to aid in turning the screen. The completed screen, painted black with one coat of varnish and stenciled to protect weak points from breakage, makes an attractive addition to any office.

This screen is small, uses less space, costs less than ready built models, and has a mobile storage box for films, which regular screens do not have.—**R. D. Haire, M. D., Roswell, N. M.**

Cadmium Toxicity

Cadmium during the late war, especially, came into use as a substitute for tin. It takes a high polish and can be deposited on medal surfaces electrolytically from a cyanide bath. Hence, it was used to surface plate cooking utensils and other containers used for foods.

It has been known that cadmium was toxic since 1876 when cadmium was ingested because of a bottle being labeled wrongly by a pharmaceutical house. Throughout the years several episodes of cadmium poisoning have been noted in the literature.

Since the war much more cadmium plating has been in vogue and several episodes have been mentioned. The symptoms are those of any acute food poisoning, namely, vomiting, diarrhea, abdominal pain and dehydration in proportion to the extent of the evacuations.

None of these epidemics have been fatal, but the fact that cadmium poisoning can occur, does occur, and may well occur more frequently than it did prior to World War II should be kept in mind by the practicing physicians.

How Unlike Russia

The Atomic Energy Commission has for some period of time been furnishing isotopes to foreign countries for research. At least sixteen countries have taking advantage of this liberal offer, and apparently have made some progress in scientific research.

This program is fundamentally consistent with our democratic form of life. We have now gone further because some of the foreign countries have been handicapped by the lack of knowledge on how to use isotopes safely.

The facilities of the Oak Ridge Institute have been opened to these foreign investigators. Such a procedure as this can only promote international goodwill among scientists interested in the well-being of the human race.

Southwestern To Meet With New Mexico Cancer Society

The annual conference of the Southwestern Medical Association will be held jointly with a meeting of the New Mexico Division of the American Cancer Society November 9th through 12th in the Hilton Hotel in Albuquerque, Dr. Joseph M. Greer, of Phoenix, president of the Southwestern Medical Association, has announced.

The joint meeting is being sponsored and arranged by the Bernalillo County Medical Society of New Mexico, of which Dr. H. J. Beck of Albuquerque is secretary. All communications on the subject should be addressed to Dr. Beck.

Ten Good Things

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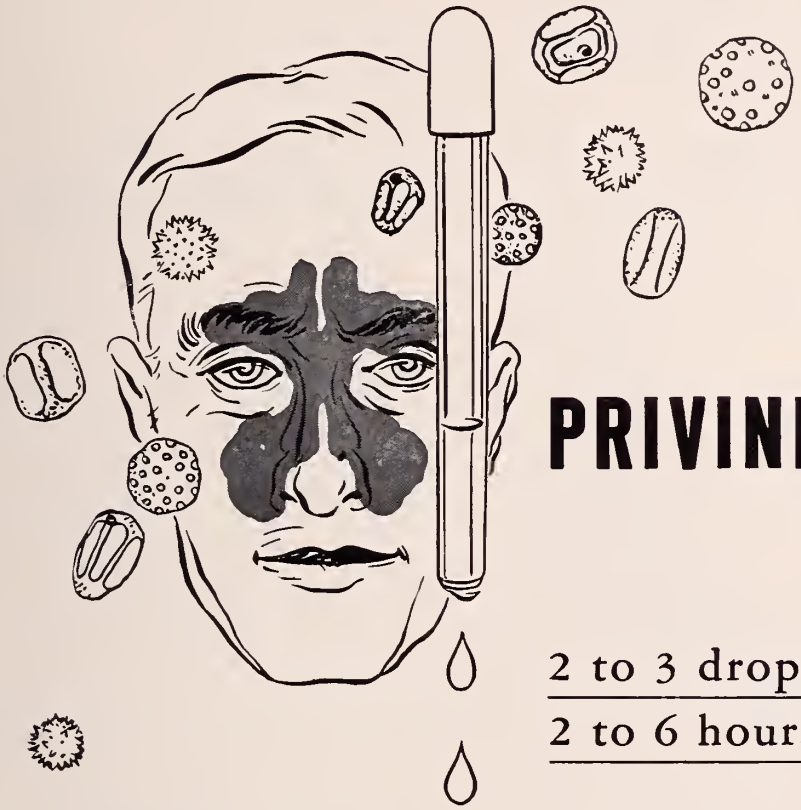
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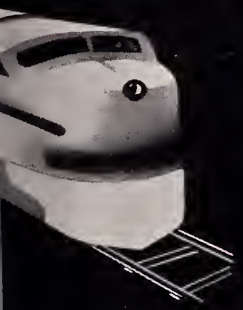
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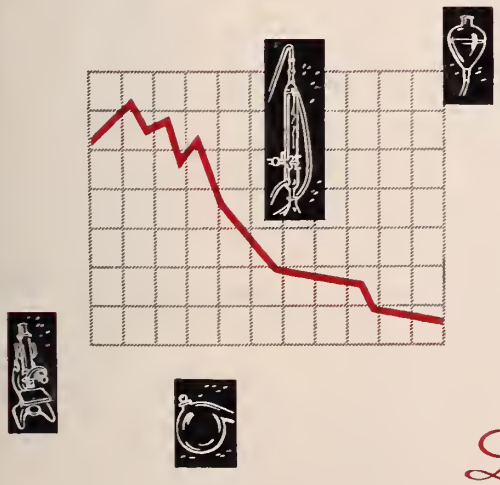
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DEPERSONIFICATION AND THE MASS MAN

OSCAR EWING, administrator of the Federal Security Agency, the modern "Pied Piper", has played, and is still playing, a tune which is essentially entitled, "The Greatest Good to The Greatest Number." This is the theme song of any bureaucracy. No matter what the musical score may be, the words are always the same.



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Ignorance of the moral obligation of a physician renders it impossible for a bureaucrat to understand the practicing physician's antipathy toward compulsory health insurance. Ignorance may be either subjective or objective. Subjective ignorance is the type of ignorance known only to the individual himself, and serves as a stimulus to the acquisition of further and accurate knowledge.

Recent events have caused the medical profession to doubt; or, at least, to manifest some skepticism as to whether the proponents of compulsory health insurance are subjectively ignorant; rather it is believed that these individuals are objectively ignorant. They apparently are self-satisfied and have little or no wish to secure accurate knowledge of the physician's problem insofar as his moral obligations to his patients are concerned.

MORAL OBLIGATIONS

The Reverend Willard L. Sperry, Dean of the Harvard Divinity School, in an address before the Staff of Massachusetts General Hospital, commented on the moral obligations of the physician in the following manner:

"There are two terms that have been much to the front in recent years. They represent what are called so-

cial trends. One is the word, "depersonification"; and the other the words, "mass man". Both terms represent tendencies, particularly on the part of the state, to depreciate the value of the single individual in favor of the group as a whole. These trends have found their fullest expression in countries where totalitarianism has been, or still is, the order of the day. In such societies the individual is of value only as a member of the mass, and is always regarded as expendable.

"Our own country has just now fought two world wars in defense of the general idea of liberty and the rights of the individual. His liberties have had to be circumscribed in wartime; and now that the fighting is for the moment over, we are left with lives that are much less free, as far as our private affairs are concerned, than they were forty years ago. It could not have been otherwise, perhaps, and yet this steadily narrowing area in which anything like actual liberty and private initiative remains is one of the paradoxes of these years."[1]

PARADOXES EXEMPLIFIED

These paradoxes as actualities are exemplified by the testimony of Seymour E. Harris, Harvard University Economic Professor, speaking in behalf of compulsory health insurance recently before the Committee on Labor and Welfare of the U. S. Senate.

Mr. Harris made the statement:

"When you are protected against the vicissitudes of illness, you save less."

He made the point that the program would encourage people to reduce their savings, and to spend more; thereby, avoiding "serious dangers of deficiency of demand, wasted resources, and unemployment."

Most of us throughout our earlier years have been taught by our parents, our teachers, that we should save a proportionate part of our income. Paradoxically enough, Professor Harris on cross-questioning by Senator Forrest C. Donnell, held that too much saving was anti-social.

He did, however, admit that this theory was "a shocking departure from the traditional custom of making provision for old age by constant saving."

It is indeed difficult to understand why the country's health should serve, as Professor Harris pointed out, as one means of heading off a depression.

LITTLE THOUGHT

It can be readily seen that little or no thought is given to the individual by these economists. In their hands the individual has become essentially depersonalized, and their interest is apparently solely that of the "mass man". Someone must retain faith in the individual. We cannot lose sight of the fact that we are dealing with human beings, and not with an abstraction known as "mass man".

Dean Sperry continues:

"A man who goes into the practice of medicine or of the ministry ought to enter his profession with that conviction and ought to do his best to vindicate it. There is a place in society for the man who wishes to devote his life to the general and all-over cause of public health. There is a place in the religious world for a man who feels he should sign on with one or another of the great reform movements of the time. The work of these men is necessary, and their contribution to society may be very great. But the practicing doctor and the parish minister are primarily concerned with individual human beings. The moment either begins to sacrifice his concern for the individual to some other hypothetical person, or to society in the abstract, he has mistaken his vocation."[2]

COMMON SENSE

The truth and common sense of Dean Sperry's words will be appreciated and understood by every ethical practitioner of medicine. Admittedly, there is a place for the agencies interested in public health, but what can these agencies possibly know about the individual patient? Nor can the economists grasp tangibly the relationship of the physician to the individual. This knowledge only comes with actual experience in the practice of everyday medicine. It cannot be taught in medical school. When the third party, such as the state, enters into a contract between the patient and the physician, then individuality becomes extinct, and the integrity of the profession suffers.

No amount of reasoning could possibly make the objectively ignorant bureaucrat understand the patient and physician relationship. This relationship is easily and well understood by the priest, the minister, or rabbi, whose lifework, as is the physician's, is devoted to the individual. This aspect of compulsory health insurance rests with the physicians as individuals.

Each physician should consider himself as a committee of one and take time to talk to the individual regarding this aspect of the practice of medicine. Whether an individual is an employer, or an employee, whether he is a union member or not, is of little consequence when severe illness strikes his loved ones. He looks to two professions, medicine, and theology, for help and comfort. He has no wish to be depersonified. He wishes to be treated as an individual, and he has no wish for government interference in his problem; and he professes absolutely no interest in the abstraction known as "mass man."

1. "Moral Problems in the Practice of Medicine", Willard L. Sperry, **The New England Journal of Medicine**, Volume 239, No. 26, Dec. 23, 1948.
2. Ibid.

DOCTOR'S DILEMMA

A doctor in Suffolk, England, with 4000 patients on his health panel has become fed up with nationalized health. To each patient recently he sent the following mimeographed letter:

"Are you bald? Let me give you a certificate for a wig.

"Are your rations proving too much for your waistline? Let me introduce you to the latest in state corsets with a certificate.

"Are you short of whisky, brandy, fats, meats, glucose? Let me give you a certificate.

"Are you short of petrol? So am I.

"Is your 44-hour week too much strain? Do let me give you a certificate.

"Can I give you an exemption from sitting on jury? Do you want to vote by post in the next election? Let me help you.

"Do you want rubber tires, utility furniture, extra coal, more paraffin? I have lots of certificates.

"Do you know you must fill in Form 24A if you want to have a baby?

"Are you ill? For God's sake don't call me in! I'm too busy signing certificates!"

—Mickling in Cleveland News Reprinted from **The Reader's Digest**, June 1949.

NEW FACILITIES AT HOT SPRINGS RECENTLY COMPLETED

Construction of new facilities at Hot Springs, New Mexico, with its mineral water and climate, is putting that city on a par with other world-famous spas and offering physicians of the Southwest a near-by economical and well-equipped health center, where they may send patients.

The current building boom in Hot Springs is providing the city with the latest in bathhouse-equipped motels and tourist courts. The newest structures offer private baths, air conditioning, radiant heat and kitchen facilities for as low a weekly base rate as $35 a unit.

The baths themselves cost between $1 and $1.50 at the top resorts. Some of the latest units have special tiled baths with mineral water as part of an apartment unit. Others have the bath units conveniently located within the motel.

In addition, mushrooming construction has given the city a score of new attractive tourist courts beyond the hot water area within easy reach of the city's bathhouses. Many of the city's older bathhouses in the 54-acre hot water area offer baths for as little as 25 cents.

Hot Springs, famous for its mineral waters since early Indian days, is located in the Middle Rio Grande Valley on Highway 85 approximately half-way between El Paso, Texas, and Albuquerque, New Mexico. It is served by four bus lines, with excellent connections at either Albuquerque or El Paso. Just four miles north is Elephant Butte Dam, where the waters impounded form a lake 44 miles long and eight miles wide at the widest point, and where fishing and water sports abound.

The city is at an altitude of 4200 feet in the 80 per cent sunshine belt. Completely surrounded by mountains which deflect storms, the city has an average winter temperature of 46 degrees and an average summer temperature of 77 degrees. The average rainfall is only 7.1 inchs, compared to 45-65 inches a year at Hot Springs, Arkansas, and 32 inches at Excelsior Springs, Missouri. There are approximately 318 sunny days a year as compared with the average of 142 sunny days at Hot Springs, Arkansas.

It is an old axiom at Hot Springs, New Mexico, that you don't have to fight the climate along with ailments; for the climate works for the patient throughout the year.

The hot mineral water that bubbles up at approximately 113 degrees has long been accepted as highly useful in the treatment of arthritis, rheumatic disease, neuritis, certain forms of paralysis, certain nervous disorders, certain skin diseases, Buerger's disease, and other circulatory disorders.

The city has a complete general hospital in the 50-bed St. Ann's Hospital. Seven physicians in the Hot Springs area are Drs. W. B. Cantrell; Robert Fulwider; E. E. Hubble; H. B. Johnson; W. L. Minear, who is chief of surgery at nearby Carrie Tingley Hospital for Crippled Children; A. C. White, and T. B. Williams.

The Carrie Tingley Hospital is the Southwest's leading hospital and is devoted entirely to children's orthopedic work. The hospital, a state institution, has a normal capacity of 100 beds and nearly two acres under roof.

An excellent opportunity for young physicians currently exists in the Hot Springs, area, according to physicians there. The city has a population of approximately 9000 and the county about 13,000. An average of approximately 3000 transients are in the area throughout the year.

COMPARISON OF THE CLIMATE AND MINERAL WATERS OF LEADING U. S. SPAS

	Hot Springs, New Mexico	Excelsior Springs, Mo. (Sulpho Saline)	Hot Springs, Arkansas	Hot Springs, Virginia
Sodium Chloride	1771.6	6174.9	4.6	9.92
Sodium Sulphate-Sulphide	.....	.....	.....	.....
Potassium Chloride	131.4	857.3	7.01	10.97
Potassium Sulphate	.....	71.7	.....	.....
Potassium Nitrate	.8	.....	4.3	24.91
Calcium Carbonate or Bicarbonate	278.6	.....	.....	.....
Calcium Chloride	143.9	515.4	122.26	381.5
Calcium Sulphate	113.0	.....	.....	.....
Magnesium Carbonate or Bicarbonate	.....	201.3	.....	31.2
Magnesium Sulphate or Chloride	63.1	519 0	.....	103.32
Silica	43.0	.....	43.11	20.93
Alumina	3.2	.....	.....	1.21
Iron Oxide	.....	.....	.....	.57
Iron Carbonate or Bicarbonate	.6	30.3 1.2	3.1	....
Sodium Nitrate	.....			
		8371.1	293.1	630.64
Total solids (pts. million)	2549.2	8371.1	293.71	630.64

Analysis shows .000000000844 grams of radium per liter in the Hot Springs, New Mexico, water.

Hot Springs, New Mexico, water analysis made at the Water and Beverage Laboratory, Bureau of Chemistry, Department of Agriculture, Washington, D. C. Jan. 7, 1921.

Southwestern Medicine

Journal of
SOUTHWESTERN MEDICAL ASSOCIATION
and
EL PASO COUNTY MEDICAL SOCIETY

VOL. XXIX JULY, 1949 NO. 6

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THEY CALL IT FREE MEDICINE "DOWN UNDER"

In Australia the relations between the physician and the government are, to put it mildly, greatly strained. The people themselves do not profess a great deal of interest in the government's so-called "Free Medicine" scheme.

The Australian Medical Association has flatly refused to participate in the official scheme under the existing regulations. Prime Minister Joseph B. Chifley states, "No matter how long the fight goes on, there will be but one finish to it. Make no mistake about that."

Mr. Chifley apparently realizes the tremendous financial drain on any country operating under a system of so-called free medicine and has taken steps to reduce the financial burden. As usual these steps in the final analysis may benefit the Australian taxpayers pocketbook, but not his physical well-being.

Although the Labor government promised complete freedom of action for the doctors, it has recently passed a bill forcing the doctors to prescribe under the government's drug formulary law. Failure to do so carries a penalty of one hundred and sixty dollars.

However, in spite of the fact that this bill has been passed, it has not been proclaimed, but is being held more or less as an axe over the head of the medical profession.

The consensus among the majority of Australian physicians may well be summed up in the statement of one prominent member of the fraternity.

"So-called free medicine must be restricted to the cheapest form of treatment, irrespective of whether it is beneficial to the patient or not."

PSYCHIATRY FOR SENESCENCE*

CLARKE H. BARNACLE, M.D., DENVER, COLORADO

Asst. Professor of Psychiatry, University of Colorado; Consultant in Neuro-Psychiatry for the United States Army; President, Colorado Neuro-Psychiatric Society, 1948-49.

Orientation to the problem of old age has been well expressed by John Dewey, the American philosopher, in the following remark, "It is strange that the one thing that every person looks forward to is the one thing for which no preparation is made."(1)

Knowing more about senescence should help the aging man to understand his own destiny and help the young to understand the old. The problem of geriatrics is of utmost importance today, although those concerned know that this branch of research is still in its infancy.



Dr. Clarke H. Barnacle

Reports emphasize that we are becoming a nation of dollars, that by 1980 it is estimated 50 per cent of the population will be over 45 and 15 per cent will be 65 years of age or older, and that this is due to three factors: the increase in average life expectancy from 51 years in 1919 to 65 years in 1945; a rapidly declining birth rate; and the decrease in immigration of lower age groups.(2)

The medical profession, which has been so aware of disease prevention and infant mortality, should take the lead in casting light upon the problems of senescence. It is hoped that medical schools will establish special departments in geriatrics comparable to those in pediatrics.

Wide-sweeping conclusions about aging are invalid; however, it is generally believed that aging is a steady and gradual process that begins at birth. Senescence, or old age, is characterized by physical decline, retardation of mental processes, and usually less plasticity and adaptability. The process of aging follows a rule peculiar to the individual; each person reveals, in advanced age, the traces of his own life-history. The aging process varies in families, clans, and groups, and may be dependent, as Oliver Wendell Holmes suggests, upon his fortune or misfortune in choosing his ancestors. Normal involution seldom occurs independently, but is almost always combined with or masked by disease processes. It is difficult to determine where involution ceases and disease begins.(3)

PHYSICAL DECLINE

Physical decline is characterized by atrophy and dehydration of the tissues and organs, particularly noted after the 70th year. The skin becomes thinner, pigmentations increase, the hair falls out, or sometimes grows in abnormal places; posture becomes stooped, bones become brittle and poor in calcium. Circulation is less competent; deafness and poor eyesight are not uncommon. Old women often grow beards; the distinctive characteristics of the sexes become less obvious, and sometimes it is difficult to tell from the appearance of the face or the sound of the voice whether the aged person is a man or a woman. Physiological and pathological changes of the central nervous system may be gradual or rapid; the brain often ages more slowly than other organs. Degenerative changes of the cerebral cortex are progressive; eventually this process, as well as progressive debilitating changes of the cerebral blood vessels, takes place.

Easy fatigability, forgetfulness, reminiscence, loss of concentration, rigidity or unusual plasticity of personality, and mild impairment of judgment are apt to be considered normal. We think of psychological changes in old age occurring because of decreased capacity of the biological organism to cope with new situations, thus increasing the demand to borrow from past experience.(4) The power of adaptability is no longer adequate; intellectual efficiency is decreased. In compensation for the retrogressive psychological changes, healthy senescence is frequently accompanied by wisdom and tranquility. The oldster may be more philosophical in his attitudes and may have a broader understanding of life's problems.

There are many real dynamic factors that produce maladjustment in the senescent. The crux of the problem is insecurity, which leads to fears—fear of what is to become of him, fear of becoming a burden, and most important of all, fear of growing old. The elderly person may be faced with the death of his mate and of many of his close friends; he comes to a sense of loneliness because he does not make new friends easily.

At the same time he is aware that his physical decline is lessening his earning power and that he faces possible financial dependency. Then there is the problem of loss of authority, being supplanted by younger men, and enforced retirement. When he is no longer able to work he may have to live with his children or look to public aid. This feeling of fear and loneliness has a marked effect upon his personal outlook. Living with his children may create a housing problem and accentuate the psychiatric aspects. There may be real conflict in the home between the aged person and the younger generations, neither understanding or tolerating the other.

With the increasing number of old people, sociological and economic problems become more manifest. The character of the home has changed, in that families are smaller and there is no reserve of family to care for the old. With increased migration to cities, children often live quite a distance from their parents. Houses are smaller, more people live in apartments, and there is less room for the aged. Of course, many old people are able to adjust in society, especially if that society is a rural farm community, even though they may have a memory loss, wander about, and reminisce.(5)

PUBLIC CHARGE

If the oldster has no economic security, he may become a public charge in the form of a pensioner, or if he

*Read before the International Post-Graduate Medical Association of Southwest Texas, Inc., January 25, 1949, San Antonio, Texas.

is physically or mentally declined, institutionalization may be necessary. Economic security in declining years is a sociological problem for every citizen. There appears to be a great waste of human material because of our attitudes toward the aged. The recent war situation demonstrated the salvage of thousands of men and women utilized in the country's production effort, and incidentally, these people regained self-esteem and happiness. We might re-examine arbitrary retirement of any person at a particular chronological age, since many people continue in good possession of their intellectual faculties in the 70's and 80's, and society might find means of keeping them employed.(6)

In the cities the convalescent homes are jammed with old people just waiting to die. In general, these individuals are neglected and are given no more than mediocre custodial care. All of our state mental hospitals are having a steady rise in the admission of senile patients. It appears that we are just constructing more and more buildings for these elderly patients and have made little progress in solving the problem.

Although efforts are still minimal, some forward steps have been taken to meet the needs of lonely elderly people. In some of the larger cities of the country, there are day clubs for older people, where they have contact with others in the same age group, establish new social relationships, and where cultural and avocational interests are stimulated. Boredom is avoided and individuals regain their self-esteem.

Dr. A. L. Vischer's work with the aged at Basle, Switzerland, has been a noteworthy experiment over the past twenty years. He has promoted a project in which the aged are housed in dormitories in close conjunction with a public hospital. These old people are not subjected to numerous tiresome regulations, but are allowed considerable freedom. Each one who is able is given an opportunity to work in the hospital in various capacities. It is interesting to note that 90 per cent of the old people ask to be given some work, for which they receive a small wage. The morale of these individuals is high; they maintain their self-esteem and prestige as members of the community.(3)

SENILE PATIENTS

When the family physician is called to advise in the management of senile patients, a general estimate of the patient's psychiatric condition usually will be apparent upon discussion with the patient and his relatives. Courteous attention to his story will bolster the patient's confidence. Nothing hurts more than being ignored or given a brusque dismissal. One should try to understand how the old person feels about himself and then act accordingly.(7)

Physical examination may reveal senile changes of atrophy and dehydration. The physician should be mindful of what is average for the individual's age group and should expect to see certain degenerative changes in old people.(4) Organic factors that might cause a temporary psychiatric state must be ruled out. Sometimes drug or alcohol intoxication, systematic disease, dietary deficiency, or delirium are present. The following case is an example of such occurrence.

Case I. An 80 year old retired physician was seen in consultation recently because of excited, unmanageable behavior after a prostatectomy. Following surgery the patient suffered from insomnia and loss of appetite, and on the fifth postoperative day, he suddenly became confused, excited, combative, and hallucinatory. Examination revealed moderately far advanced senile changes, generalized arteriosclerosis, with evidence of dehydration and toxicity.

This patient, a highly respected man, devoted 55 years of his life to a busy general practice. His relatives stated that prior to his hospitalization, he had been "slipping" in that he was more forgetful, emotionally unstable, and showed signs of general physical decline; they feared that he was becoming demented. The unmanageable psychiatric state required his immediate transfer to a mental hospital, where he responded quickly to conservative therapy of reassurance, sedation, intravenous fluids, dietary and nursing care. The patient was returned to the home of his daughter, where he felt more secure and was in a better position to convalesce.

This patient's reaction represents a frequent occurrence following surgery in elderly people. Transitory toxic-delirious reactions are prone to occur in the aged, particularly in prostatic cases, and do not necessarily indicate senile dementia.

The case brings to light an important need in all general hospitals, i. e., for private, soundproof rooms where delirious patients may be cared for temporarily in a beneficial fashion, without the dramatic and unwarranted transfer to a mental institution. The elderly professional or business man or woman is likely to resent or misinterpret admission to a mental hospital because of delirium.

One should be alert to the fact that disease processes may assume a more dangerous character in this phase of life. Medical diagnosis in aged persons is more difficult and greater demands are made on the physician's power of observation. Objective signs are often absent or masked. Several disorders may occur at one time; the body may be a "pathological museum."(3)

The easy diagnosis of "senility" may be a sign of intellectual laziness or lack of clinical imagination on the part of the physician. Rather than assume that intercurrent diseases are untreatable because of age, we owe it to ourselves to treat patients in the sixties, seventies, and eighties as we would treat the same conditions in younger people.(8) Too frequently the physician reacts to the aged as he does to the neurotic or the patient with chronic disease. Prejudices of this nature will hamper effective care.

OPTIMISTIC ATTITUDE

In treatment, an understanding, genuinely optimistic attitude is essential. The doctor should strive to develop in the aged person a sense of hopefulness and confidence, and a philosophical attitude of life. Urge the patient to do things that will tend to overcome his feelings of uselessness, and advise an environment that allows him to express as great independence as possible. Above all, boredom is to be avoided. One should encourage the patient to try to get some pleasure out of what he does and to do things that offer gratification.

The physician is the therapeutic agent in the care of seniles. The oldster, inclined to be set in his ways, may not respond well to direct suggestion. However, the physician has a position of authority and responsibility, and the elderly person is apt to heed his recommendations, if they are given in an indirect manner. The important thing is for the physician to appreciate the "person", the total environment, and the clinical pic-

ture of the patient. He might lend his own strength to the anxious and insecure old patient by showing a general willingness to stand by and help.

The physician should attempt to gain the cooperation of relatives in a broad program of treatment. It is well for them to realize that an attitude of intolerance, irritability, undue suspicion, hoarding and other traits are part of the clinical picture of the declining aged person.[9]

The aged person should not retire from work unless it is beyond his ability; he should be advised to gradually lessen the load, turning more to avocations and diversional interests. Contacts with young people should be maintained. Many times retirement from work spells death to the patient. On the other hand, he should be encouraged to relinquish responsibility as it becomes apparent that he is unable to carry the load.

Case II. The patient, a 73 year old married man, had been in good health until his postponed retirement as a railroad conductor on V-J Day after 54 years of service. The history revealed that he had always been an irritable, rigid, compulsive, suspicious person. His marriage was childless and he had been over-protected all through life by his wife and relatives. After his retirement, the patient became preoccupied and mildly depressed, and developed numerous psychosomatic complaints. In January 1947, he visited a younger brother, who died of tuberculosis a short time later. Following this, the patient's health declined rapidly; depression, insomnia, anorexia, and slowing of mentation were noted. He had frequent outbursts of rage and irritability, lost interest in his surroundings, and refused to undress or to take nourishment.

The patient was hospitalized in May 1947 for a course of electroshock therapy and adequate medical care. Aside from evidence of early cerebral arteriosclerosis and senility, his physical condition showed some malnutrition and dehydration. He was given twelve electroshock treatments and about midway in the course became intensely confused. Two weeks after the termination of shock treatment, the confusion had lifted and the patient was recovered from his depression. After a period of convalescence, the patient was advised to return to his home town, where he could be among his old friends and railroad associates.

This was fundamentally a depressive reaction in an individual with a rigid, compulsive, paranoid personality, complicated by major hysterical features. The organic elements of senility and cerebral arteriosclerosis were minimal; retirement from work, boredom, and the death of his brother appear to have been the precipitating factors in the patient's illness.

Almost every type of psychiatric reaction is found in senescence. Psychosomatic disorders frequently make their appearance in the advanced age groups, and chronic psychoneuroses may become more profound and manifest, as illustrated in:

Case III. This 65 year old bachelor, a banker by profession, has been seen in consultation off and on for the past three years because of increasingly severe paresthesias and itching of the skin, generalized restlessness, tension, periods of moodiness, and numerous psychosomatic complaints. The patient is well endowed intellectually, meticulous, and hypochondriacal in character. Physical examination was essentially negative.

The patient was an only child who lived with his mother until she died six months ago at the age of 90. His father died when the patient was in his early 20's. The patient had never had much interest in the opposite sex and confined his attention to his family, work, reading and travel. He had always been shy and diffident with people, particularly in his home town, but sensed a feeling of freedom when on vacations. He had always had a complex about himself and the townspeople because he was the banker's son and felt that he could not live up to his father's success.

From early life his family had been concerned about his health; and after numerous consultations with doctors throughout the country, a tonsillectomy was decided upon. This operation did not relieve the chronic pattern of psychoneurosis; and the patient has periodically sought medical help for sinus trouble, prostatic irritation, and in the last few years, for intensive paresthesias, aches and pains.

INTEREST LOST

At the time of our first interviews three years ago, the patient had lost interest in his work and avoided social contacts. He was greatly concerned over his mother's health because of her advanced age; he was afraid that he would be unable to meet her death without collapse..

Psychiatric aid was concerned essentially with giving the patient a better understanding of his personality, habits and attitudes of mind, and he was encouraged to develop more interest in his work and in extra activities connected with the bank and the town. He was urged to take regular vacations, to cultivate new interests and reestablish old ones.

From the first interview, the patient made a better adjustment, took more interest in his work and participated more in civic affairs. He began to appreciate that restricting his work and activities, and waiting for his mother to die, was perpetuating his nervousness. When his mother did die, he met the situation with a normal grief reaction; and, although he has occasional bouts of paresthesias, these are less intense and his other complaints are considerably relieved. On his own initiative he planned a trip to Europe and entered upon this venture with great enthusiasm.

This case illustrates a chronic psychoneurotic reaction of long duration with an increase of symptoms in later life. Surely he had strong family attachments for years; with supportive therapy he was able to meet his mother's death in a reasonable manner. Through his own efforts to understand himself and work out ways to rebuild his esteem, he has steadily progressed to a better adjustment. He no longer feels that he is living in his father's shadow; success in his own right has brought considerable relief from his neurotic imprisonment.

Simple depressive states and involutional melancholias of senescence are, for the most part, functional in character, and generally respond well to electroshock therapy. The organic features may be just one etiologi-

cal factor in the production of these illnesses, as shown in:

Case IV. This well educated, 72 year old widow was first seen in the summer of 1948. At that time she complained of insomnia, restlessness, and moodiness. She became increasingly morose and apprehensive, lost her appetite, and was unable to sleep. She was plagued with fears of not being wanted and of being a burden. She was preoccupied with guilt feelings over sex practices in her marriage, and felt that the "cemetery" was the only answer to her problems.

The patient took over the management of her husband's pharmacy upon his death 20 years ago, and acted as both father and mother to her two adolescent children. She had maintained her interest in life through work, writing, and craftwork. The past history revealed three prior attacks of anxiety, from which she recovered with rest regimes. The recent illness occurred in a setting of reestablishing her home with her son, whose marriage had failed, and with her unmarried daughter, who had returned after several years study in the east. The patient developed the idea that she had failed as a mother because her children had not reached the perfectionistic goals she hoped for.

The physical findings were negative. Her memory and intellectual faculties were intact, but influenced by her depressed state. She was hospitalized in October 1948 for the treatment of this depressive reaction, and was given a course of electroshock. She experienced moderate confusion, but left the hospital shortly after the termination of the shock treatment. She renewed her interest in cultural pursuits and took up the hobby of making puppets and figurines. Her sleep rhythm was reestablished and the depressive elements vanished from the picture. She gained a healthier attitude toward her home life and her children, and has maintained her progress since leaving the hospital.

This clinical record depicts a depressive reaction in a psychoneurotic individual who has had previous periods of anxiety. The psychological stresses of old age, feelings of failure and guilt, and fears of being unwanted, were the precipitating factors in the patient's illness.

Manias and excitements react less well to electroshock, but this therapeutic method is effective occasionally and assists in hospital management.

Paranoid states and schizophrenic-like clinical pictures may appear and in general react poorly to psychotherapeutic measures. A few of these cases respond to courses of insulin or electric shock, or combinations of both.

MENTAL PROBLEMS

When problems of mental competency arise, the physician may be called upon to recommend court procedure for conservatorship. As a result of organic brain changes, inhibitory processes are less effective and sex delinquencies are not infrequent. Malicious confidence men and swindlers often take advantage of the oldster whose gullibility is pathological. The inability to manage business affairs may necessitate legal conservatorship.

Alcoholism and drug addiction in the older age groups follows at pattern similar to that in young people. If the aged patient's brain is not deteriorated by alcohol or organic processes, and he sincerely wants help, he may be a better candidate for treatment than the younger patient, whose experience and judgment have not stabilized and who is moody and rebellious. (10)

Precipitation of psychosis due to cerebral arteriosclerosis is usually associated with cerebral accident. In the event of emotional instability, personality alteration, delusional formations, impairment of judgment and intellectual faculties, commitment procedures may be necessary to protect the patient and his family.

Senile dementia, with ultimate mental and physical deterioration, is the most common psychiatric entity. Its onset is insidious, and the symptoms of mental confusion, memory loss, regressive personality changes and deficient judgment follow a progressive course. It is often imperative to commit and institutionalize individuals suffering from this disorder.

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EDITORIAL COMMENT

Doctor Barnacle should be complimented for his most excellent presentation of such a timely subject. He has clearly presented a problem of paramount importance to all physicians. Not infrequently the medical specialist, as well as the general practitioner, is called upon to treat or advise in regard to the welfare of an aged person.

Modern advancement in science is causing us rapidly to become a nation of elders—yet our culture is one in which all emphasis is placed on youth. Age is not glorified, and too often is not even accepted with passive indifference. This industrial age places all emphasis upon efficiency and productivity. Everything is sacrificed for productivity. It is well known that there is usually a decrease of efficiency and productivity with age. The aged worker is too often discarded as a machine that is no longer useful. It is perfectly understandable why aged persons develop the feelings of rejection and not being wanted. There is a close correlation between productivity and a zest for living. It is common knowledge that death often follows a retirement from industry. Old people wish to produce; they wish to feel that their services are wanted and useful.

COLD INDIFFERENCE

The cold indifference which industry displays toward its aged worker is mild in comparison with the in-

difference and non-acceptance displayed by the family. The failure of the family is far more tragic. The decadence of our civilization is probably most acutely shown in the disintegration of the family. The disintegration of the family is most acutely shown by the family's failure to accept the aged. In many modern homes, the aged person is often unaccepted. The rapid increase in convalescent homes indicates a most unhealthy social trend.

The nurse in a convalescent home or the waiter in a hotel is no substitute for the affection of a son or a daughter. Many sons and daughters should justly hang their heads in shame, if they would fairly analyze the care they are giving to their aged parents. A society that gives social approval to such malicious customs is certainly deteriorating. Old age and infancy are periods during which the individual is dependent and must be cared for by others. All agree that no institutional system has been devised that will replace the family in the proper rearing of children. Saying that the emotional needs of the aged can be satisfied by institutional care is a fallacy.

INDUSTRIALIZATION

Industrialization and urbanization of population have made it increasingly difficult to care properly for the aged, non-productive members of the family. The aged person could be more easily cared for in the rural areas. Crowded housing in tenements and marginal financial reserves make the aged person a distinct burden to the family. It would be understandable if we should find the majority of patients in the convalescent homes from the families of marginal incomes. This is not the case.

It is regrettable to say that some psychiatrists have given condolence to the practice of having the aged cared for outside the home. They have been over-zealous in encouraging the children to emancipate themselves from the parents and to assert their independence by boarding the parent "where they will have the advantage of being with other old people they enjoy." Such advice is malicious and extremely nearsighted, and is a false concept of maturity.

We should glorify old age. Once there is honor and dignity attached to age, individuals will look forward to the sunset of life with eagerness and expectation. If we, as physicians, are guided by the psychological concepts so capably stressed by Dr. Barnacle, we might not add many years to the aged person's life, but we could certainly add life to his remaining years.

ARLIN B. COOPER, M.D., El Paso, Texas.

PROCEEDINGS OF THE EL PASO TUMOR CLINIC

CASE NO. 356

Colonel Roucher, William Beaumont General Hospital: This is the case of a 60 year old male who presented himself to the hospital October 20, 1948. Examination revealed an ulcerative necrotic area involving the left breast, which was fixed to the chest. There was no evidence of axillary or supraclavicular adenopathy. The lesion measured eight cm. in diameter and had been present for about four or five months. Roentgenograms of chest revealed extensive metastasis to both lungs. Skeletal survey revealed no evidence of bone metastasis. Except for mild anemia, no significant blood findings were noted. Biopsy was done and this revealed a scirrhous type of carcinoma, low grade malignancy. Patient was referred to the department of radiology for radiation therapy since it was classified as inoperable or Stage Four carcinoma.

Colonel Zanca: Radiation therapy was instituted October 23, 1948, and completed November 23, 1948. Radiation was directed only to the primary lesion and since patient did not have any complaints of pain or cough, no treatment was directed to the lungs. On May 16, 1949, patient returned complaining of cough and some loss of weight. Roentgenograms of chest revealed moderate increase in degree of metastasis to both lungs. The primary lesion had regressed satisfactorily, there being only a small area of scarification remaining. About three inches below and medial to the primary lesion was a palpable nodule thought to be metastatic Still no evidence of bone metastasis found on skeletal survey. Patient was subjected to radiation therapy to the medastinum for cough.

Colonel Roucher: We observed this patient about ten days after treatment to the mediastinum was completed and found no appreciable change in the extent of metastasis although his cough had lessened. The patient's general condition is not bad. He has no other complaints other than what is now more of an annoying cough. He has no pain. My purpose in presenting him today is to determine if anything more can be offered him in the way of palliative therapy. It seems there has been some work done in Memorial Hospital in New York with encouraging results with orchiectomy in which definite arrest of malignancies of the male breast has been obtained. Is there anyone familiar with this work?

Dr. Curtis: I have had no personal experience in orchiectomizing patients with carcinoma of the breast, but I am familiar with Treves' work at Memorial Hospital, as published in the March issue of the journal, "Cancer." He draws a parallel between castration for prostatic carcinoma in which extrogen has failed to control the disease. In spite of the limited knowledge that we have in the role of estrogens in the management of carcinoma, we have seen remarkable results in prostatic cancer with the use of extrogens, with, or without castration. Certainly if this patient's condition would permit, and from what the Colonel tells us he is in good condition, I see no contra-indication in suggesting such a procedure since there is really nothing else that can be offered.

Dr. Reynolds: Could stilbesterol be used in this case first, as is done with prostatic carcinoma?

Dr. Curtis: According to Treves, stilbesterol failed to bring about any appreciable response in two cases in which it was used.

Dr. Gibson: I quite agree with Dr. Curtis in suggesting this procedure to the patient. However, some difficulty may be encountered in the patient's acceptance even though he is 60 years old. This has certainly been true with similar procedure in prostatic carcinoma.

Dr. Fuchlow: If this suggestion is agreeable with you, Colonel Roucher, then the recommendation is castration, if patient consents. The clinic would like to see the patient with roentgenograms of chest one month after surgery.

THE PROPOSED ESTABLISHMENT OF A SECTION OF GENERAL PRACTICE IN GENERAL HOSPITALS

It is noteworthy that the recognition of the general practitioner has become much more pronounced in recent years. At the May meeting of the State Medical Society of Texas the excellent program of the Section of General Practice was heavily attended; and it occupied perhaps the predominant place at this meeting. The A.M.A. has established a section on general practice. Residencies are now being offered in general practice. Lastly, the Academy of General Practice has been organized and is growing rapidly. General Practice has come into its own, and begins to occupy its rightful place in medicine.

Recognizing that a place must be made in the future for the general practitioner in general hospitals, the House of Delegates of the American Medical Association passed the following significant resolution, parts of which are as follows:

"WHEREAS, Many hospitals have not established general practice sections in their visiting active staffs, and their governing heads are doubtful whether such action has the approval of the bodies which set up the rules and regulations for the approval of their hospitals for interns and residents; therefore be it Resolved:

"That hospitals should be encouraged to establish general practitioner services. Appointments to a general practice section shall be made by the hospital authorities on the merits and training of the physician. Such a general practice section shall not per se prevent approval of a hospital for the training of interns and for residencies.

"The criterion of whether a physician may be a member of a hospital staff should not be dependent on certification by the various specialty boards of membership in special societies.

"Copies of this resolution have been sent to the American College of Surgeons, the American College of Physicians, the American Hospital Association, the Catholic Hospital Association and to each hospital registered by the Council on Medical Education and Hospitals of the American Medical Association."

The American Academy of General Practice, realizing that some constructive effort must be made to accomplish hospital sections of general practice, has made certain recommendations. These are represented graphically as follows:

ORGANIZATION AND FUNCTIONS OF THE HOSPITAL MEDICAL STAFF

As Approved by

AMERICAN COLLEGE OF SURGEONS

(With the addition of a Non-Specialist Division Organization, as proposed by the Committee on Hospitals of the American Academy of General Practice)

HONORARY — CONSULTING — ACTIVE — ASSOCIATE — COURTESY

	Specialist Division	Non-Specialist Division (General Practice Section)
ORGANIZATION:		
Grouping	Clinical departments	Administrative and clinical section
Staffing	Clinicians	Administrative and clinical officers
Membership	Full and part specialists	General Practitioners
FUNCTIONS:		
Professional Privileges (as Individuals)	As designated by the qualifications and credentials committee	As designated by the qualifications and credentials committee
Intern-Resident Training	As designated by the qualifications and credentials committee	As designated by the qualifications and credentials committee
Staff Management	Full privileges	Full privileges
Privilege of group to function as a clinical service		
Out-Patients:	As designated by the qualifications and credentials committee	As designated by the qualifications and credentials committee
In-Patients:		

In order to establish and to conduct a section of general practice, the Academy makes the following suggestions:

PART I.
GENERAL PRINCIPLES

I. DEFINITION OF A GENERAL PRACTITIONER:

A general practitioner is a legally qualified doctor of medicine who does not limit his practice to a particular field of medicine or surgery. (American Medical Association).

II. THE TYPE OF HOSPITAL IN WHICH THE ESTABLISHMENT OF A SECTION OF GENERAL PRACTICE SHALL PRIMARILY BE CONSIDERED:

The establishment of a Section of General Practice shall be considered in all general hospitals, in which specialists represent a portion of the medical staff.

III. THE SEGMENT OF THE MEDICAL STAFF STRUCTURE IN WHICH THE SECTION OF GENERAL PRACTICE SHALL BE ESTABLISHED:

The Section of General Practice shall be established within the structure of the Active Medical Staff.

IV. THE MEMBERSHIP OF THE SECTION OF GENERAL PRACTICE:

General practitioners shall be eligible for membership in the Section of General Practice. They shall be appointed to the Section of General Practice from amongst those general practitioners who have demonstrated an active interest in the work of the hospital and who are eligible for such appointment.

V. GENERAL PRACTITIONERS AND DUAL STAFF APPOINTMENTS:

It shall be permissible for hospitals to establish a system of appointments in various specialty departments for members of the Section of General Practice who wish to become proficient in special fields of medicine and surgery. This arrangement will facilitate the advancement of his interest in such special fields. The general practitioner shall not vote nor hold office in more than one section or department.

VI. THE QUALIFICATIONS AND CREDENTIALS COMMITTEE OF THE MEDICAL STAFF:

The qualifications and credentials committee shall consist of representatives of the specialist and non-specialist groups of the active medical staff. The functions of this committee shall be those ordinarily designated it by approved hospitals, and qualifying bodies in organized medicine.

VII. **THE RESPONSIBILITIES OF THE SECTION OF GENERAL PRACTICE:**

CLINICAL

1. Participate in the care of patients under the following provisions:
   a. The Section of General Practice may constitute a clinical service for the care of in- and out-patients. Designation of final authority in the clinical management of patients shall rest with the qualifications and credentials committee.
2. Participate in the intern-resident-nurse training program of the hospital.

NON-CLINICAL

1. The Section of General Practice shall participate (proportionately with other comparable groups of the staff) in all staff activities of a non-clinical nature. It shall:
   a. Promote proper administration of the professional services of the hospital.
   b. Fix more definitely the responsibility of general practitioners in the hospital.
   3. Vote and hold office.

VIII. **THE RESPONSIBILITIES OF INDIVIDUAL MEMBERS OF THE SECTION OF GENERAL PRACTICE:**

PROFESSIONAL PRIVILEGES:

1. Members of the Section of General Practice shall have only such professional privileges as shall be determined for each by the credentials committee, subject to those mechanisms of review available to all members of the staff.
2. Members of the Section of General Practice shall apply for professional privileges in the various fields of medicine and surgery in which they wish to engage in the hospital. They shall apply for privileges in each of these fields in one of three categories of privilege.

These categories shall be minor privileges, intermediate privileges, and major privileges. They shall be defined as follows:

a. Minor priviliges in any service will allow the physician to treat patients when, for any cause, the treatment does not involve either a serious hazard to the life of the patient or a danger of disability.
b. Intermediate privileges in any service will allow the physician to treat patients when, for any cause, such treatment does not involve a serious hazard to the life of the patient but does involve a danger of disability.
c. Major privileges in any service will allow the physician to treat patients when, for any cause, such treatment involves a serious hazard to the life of the patient.

3. In the performance of clinical procedures, or in the management of patients in the hospital, the ultimate evaluation of the judgment and ability of the general practitioner shall rest with the qualifications and credentials committee.

PART II

A SPECIFIC PLAN FOR THE AMENDMENT OF THE CONSTITUTION AND BY-LAWS OF AN APPROVED HOSPITAL FOR THE PURPOSE OF INTEGRATING A SECTION OF GENERAL PRACTICE IN THE HOSPITAL MEDICAL STAFF ORGANIZATION.

THE ACTIVE MEDICAL STAFF

a. The active medical staff shall consist of two divisions:
   (1) The specialist division of the active medical staff, and
   (2) The non-specialist division of the active medical staff. (General Practice Section).

b. Appointments shall be made annually by the governing board on recommendations of the active medical staff from former members of the active medical staff, and, insofar as it is possible, vacancies shall be filled by promotion of members of the associate medical staff who have signified a desire to become active in the work of the hospital.

ARTICLES GOVERNING THE SPECIALIST DIVISION OF THE ACTIVE MEDICAL STAFF:

(From: "Manual of Hospital Standardization," American College of Surgeons).

a. The specialist division of the active medical staff shall consist of physicians who have been selected to attend free patients in the hospital and to whom all such patients shall be assigned. Members of the specialist division of the active medical staff shall not be required to be exclusive specialists, but it is to be expected that they will be well skilled in the particular branch of medicine to which they are assigned, and that the major part of their private practice will fall within that specialty.

b. The duties of the specialist division of the active medical staff shall be to attend all free patients, and, insofar as free work is concerned, they shall attend only such patients as are admitted to their services.

c. Insofar as free patients are concerned, members of the specialist division of the active medical staff shall treat patients in both the in- and out-patient departments, as assigned to the service, and in the treatment of these they shall have unrestricted privileges and shall treat the patient to a conclusion, whether such treatment is given in the in- or out-patient department, or both. Insofar as private patients are concerned, they shall have unrestricted privileges in the treatment of patients falling within the specialty to which they are appointed, but in others they shall have only such privileges as may be determined by the credentials committee in conformity with articles governing the prerogatives of that committee.

ARTICLES GOVERNING THE NON-SPECIALIST DIVISION OF THE ACTIVE MEDICAL STAFF:

a. The Non-Specialist Division of the Active Medical Staff shall consist of legally qualified doctors of medicine who do not limit their practice to a particular field of medicine or surgery.

b. In the care of patients, they shall have such privileges as shall be determined for each by the qualifications and credentials committee.

c. They may participate in the care of patients in the in- and out-patients departments of the hospital as determined by the qualifications and credentials committee.

d. Participation in the care of patients shall be by virtue of appointment in the section of general practice or any other department in which the specialty of the applicant shall have expressed a desire to advance.

e. The general practice section of the active medical staff shall constitute the non-specialist division.

ORGANIZATION OF THE SECTION OF GENERAL PRACTICE:

1. DEFINITION OF A GENERAL PRACTITIONER

A General Practitioner is a legally qualified Doctor of Medicine who does not limit his practice to a particular field of medicine or surgery.

2. OFFICERS:

a. Director: There shall be a director and, or, a chairman elected from the Section of General Practice and approved by the board of trustees. The duties of the director shall be to correlate the work of the section from year to year. He shall have the same prerogatives of staff management as have directors of other sections or departments.

b. Chairmen: (When both director and chairman shall exist): To be elected each year by popular vote of the Section. He shall serve for one year and may not be re-elected for more than one consecutive term. He shall assume the active direction of the functions of the section, presiding at meetings.

c. Secretary: To be elected for a two year term by popular vote of the section, and may not be re-elected for more than one term. He shall keep permanent records of the proceedings of the section.

d. When the Section of General Practice constitutes a service for the care of in- or out-patients, the members of the section shall be designated "clinicians", and shall be rated as are clinicians in other clinical services.

FUNCTIONS OF THE SECTION OF GENERAL PRACTICE

1. The Sections of General Practice shall:

a. Discuss the deaths of all patients admitted to the hospital by general practitioners.

b. Discuss cases of unusual interest.

c. Conduct programs of general scientific interest.

d. Promote the proper administration of professional services.

e. Fix more definitely the responsibility of general practitioners in the hospital.

f. Participate in general medical staff management.

g. Participate in the care of indigent patients in the in- and out-patient departments of the hospital as determined by the qualifications and credentials committee.

h. Participate with the specialist division of the active medical staff in the intern-resident-nurse training program of the hospital.

2. The Section of General Practice shall hold regular meetings to accomplish the foregoing.

In view of the fact that in the very near future in El Paso there will be operating four general hospitals with a substantial bed capacity, the problem of a general practice section must be considered. All plans for staff reorganization should, by necessity, take cognizance of the general practitioners' place in a general hospital and be governed accordingly. That general practice is the bulwark of American medicine cannot be denied. It is rapidly attaining its proper place. It must, and shall have proper and adequate hospital facilities.

PREGNANCY COMPLICATED BY COARCTATION OF AORTA

A CASE REPORT

By Celso C. Stapp, M.D., El Paso, Texas

The incidence and care of pregnancy complicated by coarctation of the aorta not only is an obstetrical hazard, but also a medical problem.

I believed that this patient did not have a too severe coarctation of the aorta; and therefore, it was deemed safe for her to go through pregnancy. The caesarian section was done due to a generally contracted pelvis. I believe that, even though the pelvis had been adequate, in this instance it would have been safer to do a section than permit labor. This was particularly due to the fact that the section was elected at an optimum time.

Mrs. M. M., a white female, age 30 years, presented herself for treatment on 3 September 1947.

Chief Complaint: Cessation of menses since 14 June 1947.

Past History: Menses began at the age of 16 years and continued regularly every 28 days, lasting 4 days until 14 June 1947. Flow was moderate with only mild cramping on first day of menses. No clots or hemorrhages. Patient has been married for seven years and has had no pregnancies. She was told shortly after her marriage that she should not have children, due to having high blood pressure. Patient was of normal birth, being the eldest of four children, all of whom were of normal pregnancy and birth. There was no history of high blood pressure or of heart disease in the family. Patient was apparently healthy up to the age of ten years at which time she had an attack of illness, she was told that she had high blood pressure. It is not known what the blood pressure was at that time. Patient was sick for about six months and recovered gradually, but the blood pressure remained up. At the age of 14 years, patient had bronchial pneumonia and was sick for over a month. The doctor told her that she had a heart murmur and that her blood pressure was still elevated. Her general health improved for two years and then she began having a headache in the back of the head, which was worse when she became excited or nervous. She caught colds rather easily and was generally not in too good health.

Present History: Patient states that she catches frequent colds and upper respiratory infections. Has frequent attacks of pain in the chest, not necessarily related to colds. No pain down arms or over heart. Digestion is poor and has frequent attacks of indigestion and gas on stomach. Only moderately constipated. No dysuria, but has nocturia 1-2. Has attacks of swelling of feet and ankles for periods of three to four days at a time. These attacks are no oftener than every three months. Usually related to minor ills or colds. Has had shortness of breath on exertion, but able to do house work without too much shortness. Becomes fatigued rather easily. Very nervous most of the time and sleeps in fits, with bad dreams at times. Fairly good outlook on life. Libido normal.

Physical Examination: Eyegrounds appear to be fairly normal with arteries and veins normal in appearance with only moderate AV nicking. Slight expothalmic appearance with noticeable nystagmus. Cartoid pulsation was noticeable. Blood vessels of face and neck were quite prominent. Nose and throat normal. Thyroid is not palpable. Hair is blond and very fine with only moderate amount of hair. Skin of face is flushed and rather dry. Breasts normal in appearance with some pigmentation of areolae. No masses palpable.

Chest: Some coarse bronchial rales heard over entire chest.

X-Ray: Fluoroscopic and radiologic examination of the chest reveals notching of the inferior surfaces of the ribs. There is evidence of enlargement of the left ventricular segment of the cardiac silhouette. The arch of the aorta is not well visualized in the posterior-anterior view. The notching of the ribs, left ventricular enlargement and decreased prominence of the aortic arch indicate a coarctation of the aorta. There is noted in the left apical region, a region containing calcifications which were observed to pulsate synchronously with the cardiac cycle. These findings are indicative of a cirsoid aneurysm of the vertebral artery. The lungs are well ventilated. There is no evidence of active pulmonary infection.

Heart: On precussion seems to be of normal size. There is a systolic murmur heard best at the apex. Blood pressure 210/104 on the left arm, and 90/54 on lower extremity.

Abdomen: Soft to palpation. Normal peristalsis heard. No masses or tendernesses noted.

Vaginal: Uterus enlarged to about the size of an orange. The cervix is blue and soft. Reflexes were hyperactive. X-Ray pelvimetry showed a generally contracted pelvis with a true congigate of 7.5 cm. Patient weighed 85 lbs. Patient was referred to Dr. Palmer Reed, due to high blood pressure. Initial X-Ray study was by Dr. A. D. Long.

Patient's prenatal care was rather uneventful, having two attacks of colds with mild bronchitis. Urine consistently had hyline casts. No albumin or sugar was noted. Patient gained a total of 15 lbs. during pregnancy and her blood pressure consistently remained about 200/100 in the upper extremities and 90/60 in the lower extremities. Due to her unusual condition, she was seen weekly by and frequently by Dr. Reed.

On 16 March 1948, a classical caesarian section was performed and a normal male child delivered. The child had no abnormalities of circulation that could be found. Weight at birth was 5 lbs. 12 oz. The patient had an uneventful recovery. Patient did not return for post natal check-up, but was seen by Dr. Herbert Bell and Dr. Vincent Ravel, who reported her condition as being very satisfactory and recovered from the pregnancy and section.

El Paso Felicitated On Medicinal Milks

El Paso is the only city or county between Los Angeles and San Antonio which has been able to maintain a medical milk commission and to meet the rigid standards required for certified milks, C. W. Bonynge, M.D., western representative of the American Association of Medical Milk Commissions, pointed out recently.

All certified milks are essentially medicinal in purpose and are produced under supervision of local county medical societies enforcing standards specified by the American Medical Association.

Dr. Bonynge congratulated Dr. L. T. Cox, chairman of the El Paso County Medical Milk Commission, and his fellow members, Drs. Basil K. Byrne and Edmund P. Jones, on the high standards of certified milk they had managed to maintain in El Paso. He pointed out that many larger cities have been forced to abandon certified milk production because they could not meet the rigid requirements.

El Paso has three varieties of medicinal milks, certified holstein, certified goats' and certified fat-free, all produced in Price's Creameries' new $1,000,000 plant in the Lower Valley.

Veterinary for the El Paso County Medical Milk Commission is Dr. C. R. Willey.

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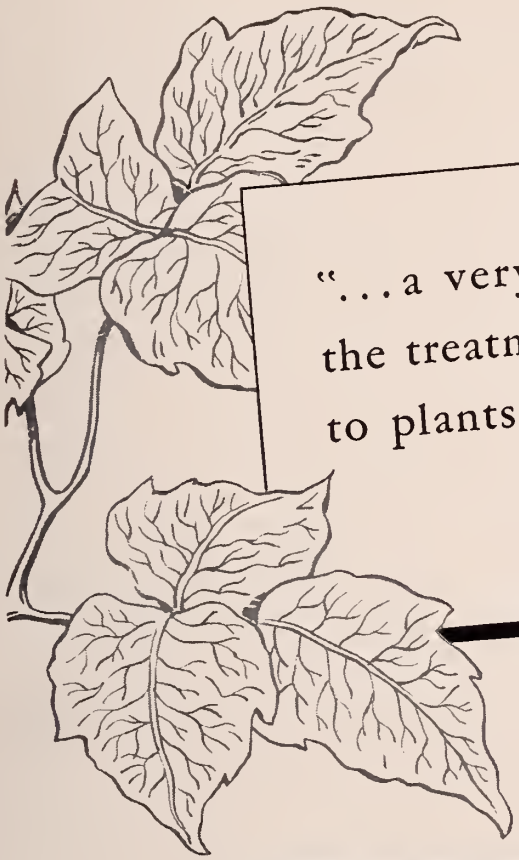
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1. Carrier, R. E., Krug, E. S., and Glenn, H. R.: J. Lancet, 68: 240, June 1948.
2. Feinberg, S. M. and Bernstein, T. B.: J. of A.M.A., 134: 10, July 1947.

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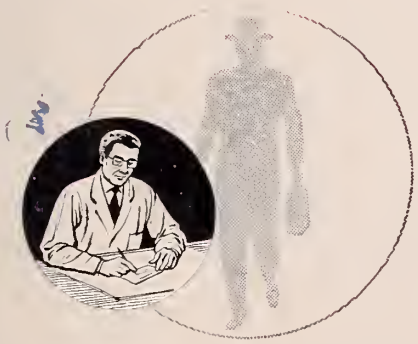
Southwestern MEDICINE

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August, 1949

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1. Undecylenic Acid and Psoriasis, editorial, J.A.M.A. **139**:460, 1949.
2. Perlman, H. H.: J.A.M.A. **139**:444, 1949.

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OUR ALLIES

The battle for the preservation and ideals of American medicine must be carried on in a vigorous manner. The medical profession as a whole has committed itself to a task of maintaining the principle of private enterprise. Vitally concerned with us in our task are the businessmen concerned with the manufacture of ethical pharmaceutical products. These manufacturers know only too well the dangers of government interference in private endeavor. They have supported and will support the medical profession in any plan that will maintain the high standards of American medicine.

Let us stop for a minute and consider the role of these businessmen in the advancement of one phase of American medicine, namely research. Those of us who have been in practice for a number of years have had the happy facility of observing the careful and painstaking work of the laboratories of these manufacturers in the standardization of their products. Time was when tincture af digitalis was, let us say, rather variable in its potency. Compare this product with the modern digitalis preparations which are highly standardized, and possess an accurate potency that remains essentially the same day in and day out. Recall the work that these manufacturers have done with insulin in its standardization, preparation, and its availability from an economic standpoint. Witness in the last few years the progress made in the various products possessing chemo and antibiotic therapeutic value. While the inception of these products represented the brainchild of the research man, their refinements and availability to the public are for the most part the results of the efforts of the pharmaceutical houses. The practicing physicians' contact with these businessmen is conducted through the medium of advertising and the "detail man."

Let us pause for a moment and consider the part that advertising plays in the progress of medicine. The busy physician has not the time to attend the number of post-graduate courses which he would like to. He

must derive, from the various medical periodicals, the recent advances of the profession. Who pays the freight for the periodicals? The subscription stipend is only a very small part. The bulk is carried by the advertisers. Doctor, when you attend a convention and you derive from that convention some increase in knowledge, remember, that a great part of the bills for that convention are paid by the exhibitors. It is deplorable that members of the medical profession do not spend a greater part of their time at the exhibits at the various conventions. When it becomes necessary to literally block the exits so that the physicians will, by necessity, pass the exhibits, it behooves the medical profession to stop and think.

The detail men render a definite and valuable service. While it has been facetiously said by some that the detail men practice the medicine in certain communities, if this be so it is the fault of the physicians, and not of the representatives themselves. These men have their living to make. They are engaged in a highly competitive industry. Competition breeds perhaps at times over-enthusiasm. But, my friends, how many of us have not been guilty of over-enthusiasm at times? They have a job to do, and for the most part they do it well. They have no desire to have the politicians tell them what and when they may detail. They are satisfied with private enterprise. Consider them as an ally, and not as a necessary evil. Remember the golden rule. The physician and the manufacturer of pharmaceuticals ask only an even break. The manufacturers do not wish the government to enter into competition with them or to supervise in an all-out manner their production. The physician wishes only to preserve his individuality. Neither are asking for any more than they deserve. They simply are desirous of preserving the fundamentals upon which our great country was born.

These fundamentals can be no better stated than to quote General Dwight D. Eisenhower, President of Columbia University, who in a letter written to Representative Ralph W. Gwinn, said in part: "However, in my own mind, I am perfectly clear as to the basic principle and have more than once made public statements to the effect that I definitely oppose every unnecessary intervention of the Federal Authority and the Federal Treasury, in what should be local business and local responsibility."

Pseudo-Liberalism

Our present day "liberals" in the field of political endeavor apparently have deviated from the true course of liberalism. Liberalism implies a freedom from prejudice or bigotry, and in itself denotes tolerance. **The Wall Street Journal** of May 23rd, 1949, in an editorial entitled "The Backward One" comments as follows: "Several days ago we said on this page that the span of human life had been lengthened, infant mortality reduced and death in childhood reduced, all in a comparatively few years. We thought the medical profession might have some credit. As we expected, there came some letters saying that the doctors deserved no credit whatever. On the contrary, they were really an unprogressive, selfish and somewhat doltish lot, who had better realize what was good for them. Just off hand, we can remember when the man next door, who sometimes gave us candy, suddenly died from something then called 'inflammation of the bowels.' What the man had was an acute attack of appendicitis. Today he would have been as good as new in a week or 10 days. We can recall when a playmate got too close to an exploding firecracker and died of tetanus. That would not happen today. And the victims would receive attention before any questions of ability to pay arose.

"It seems the fashion of our self-styled 'liberals' to attack the reputation of any calling on which they have designs. It seemed to us that the electric light which stopped flickering or failing altogether at frequent intervals represented an achievement by the power industry; also, it was our observation that the better service cost less than the poor. In our innocence, we once mentioned this to a company of 'liberals' and were told how naive we were. The power industry was backward to extent of being in the Stone Age and no one in it had ever been guilty of an idea. There was a period when the 'liberals' were eyeing the automobile industry. Then we began to hear how the motor makers had missed their opportunities and how they were holding back progress. Quite recently we have been hearing tales regarding the steel makers' lack of intelligence about how to make and sell steel. Well, we wonder. In George Washington's day doctors bled pneumonia patients with a leech. People got from here to there by horsepower—or else they walked. There were iron mongers but no steel mills. George Washington and his contemporaries, however, were quite versed in the arts of government. Suppose the technique of government had made strides comparable with the improvements in medicine, transportation, and metallurgy. We think things would be generally better than they are. Come to think of it, things would be a lot better than they are if our present day statesmen were as good as George Washington and his contemporaries."

If one is to look the situation over in an unbiased and calm manner, it becomes apparent that the technique of government is lagging desperately behind the progress made in business and the professions. The National Government owes over $252,000,000,000—more than $6300 for each American family. Lesser governments—city, county, state and others—owe around $20,000,000,000. Nobody knows how they can pay the billions spent or more billions proposed. But this is relatively inconsequential because our so-called "liberals" simply feel that they can make the business and professional man pay more. E. T. Leech, the Editor of the Pittsburgh Press, in an editorial entitled, "Never Shoot the Guy Who Is Going to Pay the Bill", comments as follows: "The popular show, 'Finian's Rainbow' has a hilarious song called 'Great Come-and-Get-It Day'. It celebrates the happy occasion when everybody can come and get what he wants. It could be the theme song for 1949." Our 'liberal' friends recommend wage boosts with re-emphasis on pension retirement plans, free medical services, longer vacations, shorter hours, increased social benefits, all to be paid by the boss. It is indeed time that those politicians who are swinging to the left begin to realize that true liberalism, the foundation of American Government, was exemplified by George Washington and his contemporaries. Furthermore, these ideals have been carried on by the business and professional men, and the pseudo-liberals themselves shoulder the responsibility for the fact that debts are rising, savings declining, and business failures increasing.

The El Paso City-County Hospital



THE GENERAL HOSPITAL

Four Hospital Units In Same Area

Four buildings, all located in the same area, constitute El Paso's City-County Hospital and make it a credit to the community and to its founders.

The hospital has a potential capacity of about 250 beds. Principal portion is a large general hospital. Other buildings include a modern hospital for the treatment of tuberculosis; an adequate hospital for contagious diseases; and a nurses' home of beautiful Spanish style architecture surrounded by landscaped grounds.

The hospital has a cerebral palsy clinic. It also handles acute polio cases from throughout the Southwestern area. The obstetrical department has recently been completely remodeled and is an excellent physical plant. The hospital has a large out-patient clinic and gives complete follow-up care to all types of cases. The hospital and the clinics contain all of the specialties and are well attended by staff men, and all of the work is well supervised. Many diseases which are peculiar to this area and subtropical areas are seen in this hospital.

A $200,000 bond issue for construction of a mental hospital will go before voters this Fall. If approved, the new building will be erected adjacent to the present four buildings.

There is a large volume of all types of surgical work. The hospital is approved by the American College of Surgeons and approved by the American Medical Association for internship and residency training programs. It is also affiliated with the Northwestern University Post-Graduate Department of Orthopaedic Surgery.

Inasmuch as teaching material in the hospital is very abundant and the work is well supervised by the visiting staff, this hospital is ideally arranged to attract second-



HOSPITAL FOR TUBERCULOSIS



THE HOSPITAL FOR CONTAGIOUS DISEASES



NURSES' HOME

year interns. The intern can be certain that he will obtain a huge amount of practical experience. He will be capable of doing many types of surgical procedures under careful staff supervision. Additional attractions are the comparatively low cost of living in the El Paso area, an excellent year-around climate, and a score of interesting vacation spots in the surrounding Southwest.

Shift In The Causes of Death

The shift in emphasis in the causes of death is dramatic. A recent comparison of the ten leading causes of death in 1900 and 1946 is revealing.

All Figures Per 100,000

1900	1946
1. Tuberculosis—195	1. Heart Disease—307
2. Pneumonia—176	2. Cancer—130
3. Diarrhea—140	3. Violence—88
4. Heart Disease—137	4. Cerebral Hemorrhage—78
5. Nephritis—89	5. Nephritis—58
6. Violence and Accidents—88	6. Pneumonia—38
7. Cerebral Hemorrhage—77	7. Tuberculosis—36
8. Cancer—64	8. Premature Birth—29
9. Bronchitis—45	9. Diabetes—25
10. Diphtheria—40	10. Arteriosclerosis—17

Southwestern Meet

Annual conference of the Southwestern Medical Association will be held in Albuquerque, November 9 through 12. The conference will be held jointly with a meeting of the New Mexico Division of the American Cancer Society.

Headquarters will be in the Hilton Hotel. Information can be obtained from Dr. H. J. Beck, Albuquerque, secretary of the Bernalillo County Medical Society of New Mexico.

What We Must Offer

Dr. Robert Flynn, the President of the Arizona Medical Association, in his Presidential address, delivered at the annual meeting of the Arizona Medical Association in Tucson, May 1949, said in part: "But what have we, as physicians, to offer Mr. Average Citizen? First, we must impress upon him that contrary to what our enemies may say, we are not opposed to health insurance plan, but merely to compulsory, politically controlled medicine. We must tell him that we favor the expansion of the public health service in order to eradicate environmental causes of disease. We favor the development of voluntary hospital and medical care plans to meet the costs of illness with extension as rapidly as possible into rural areas. We recognize that there is a large group of unemployed, unemployable and medically indigent people that must be provided for, preferably in voluntary hospitals through government aid. And, finally, we must tell Mr. Average Citizen that we recognize that this country, like the rest of the world, is in the midst of a social revolution of which changing types of medical practice represent only one phase and that we are prepared to adjust the form of our medical practice to meet altered needs and conditions."

ADDITIONAL BENEFITS FOR MEDICAL OFFICERS

The Army, recognizing that because of the present shortage of medical officers the duty hours per day are more than normal, has again attempted to add to the benefits of the medical officers. In addition to previous provisions allowing $100 per month increase in pay; giving medical officers every opportunity to pursue their specialties; assigning ranks on the basis of civilian accomplishment; emphasizing stability of their assignments by making only essential minimum numbers of transfers of medical officers; General Bradley is now adopting the policy by which medical officers will be given priority in consideration in assignment of quarters, and their families will be allowed to accompany them on overseas tours of foreign duty. Orders allowing families of medical personnel to travel with them have been issued to the Field.

Short Duty Hours Made Available

Reserve officers of the Army Medical, Dental, and Veterinary Corps have been asked by Major General R. W. Bliss, The Surgeon General of the Army, to signify their availability for short periods of service ranging from one to twenty-nine days a month, in order to help relieve the Army's critical shortages of these professional personnel.

If response to the questionnaires is sufficiently encouraging, reserve officers may volunteer for such short terms of services and perform professional duties at Army or Air Force hospitals and medical installations located in their geographic area. If 5,000 Reserve officers volunteer for only three days a month for a year's time, the man-hours contributed would be equal to the full-time service of 600 physicians, dentists, and veterinarians.

ENDOTRACHEAL ANESTHESIA

By R. J. Whiteacre, M.D.
Department of Anesthesiology, Huron Road Hospital, Cleveland, Ohio

INTRODUCTION

In this paper I wish to emphasize the importance of endotracheal anesthesia and to point out its limitations and the complications which may result from its use. Some practitioners overemphasize the importance of this method and minimize the hazards, while others take just the opposite viewpoint. Neither attitude can advance the science of anesthesiology. Careful analysis and impartial judgment are necessary if we are to make progress.

Use of Endotracheal Anesthesia

Indications for endotracheal anesthesia naturally depend upon the type of surgery involved, the customs and demands of the surgeon, and the condition of the patient. Some surgeons, either because of prejudice or, more often, a previous unfortunate experience, will not tolerate its use even when it is clearly indicated. An example of the diversity of opinion regarding the use of endotracheal anesthesia is in thyroid surgery, where some anesthesiologists and surgeons have adopted it as a routine procedure while others never use it. In thoracic surgery, endotracheal anesthesia is considered the method of choice; but, in a recent report of a large series of cases, it was found neither necessary nor desirable to use it except in very rare instances.

Perhaps the most important single justification for the use of endotracheal anesthesia is the assistance provided by the tube in preventing or correcting respiratory obstruction. Although the tube is used chiefly to maintain a patent airway, it is also a means of controlling intrapulmonary pressures, of preventing aspiration of foreign material into the lungs, and of permitting the convenient removal of secretions that accumulate in the tracheobronchial tree. In pointing out these positive advantages it would be misleading to state that the tube definitely assures a patent airway. Too often the presence of the tube has been relied upon to prevent respiratory obstruction, to maintain adequate respiratory exchange, and to assure proper oxygenation. The endotracheal technic is merely an aid, not a guarantee, of proper respiration. I would like to emphasize this point because fatalities have occurred as a result of hypoxia even with a tube in place. Meticulous attention must always be devoted to details if complications are to be avoided. On a number of occasions we have seen the tube disrupt normal respiration, perhaps because it was not inserted correctly or because the diameter was not right. Even a proper endotracheal airway will sometimes reflexly disturb respiratory exchange, making it necessary to remove the tube and maintain the air passage some other way.

Endotracheal anesthesia is used quite extensively in head and neck operations. In any swelling or inflammation, such as Ludwig's angina, that encroaches upon the respiratory tract, it is often advisable to insert the tube under topical anesthesia before general anesthesia is started. In some of these cases it is extremely dangerous to administer any type of general anesthetic before the endotracheal airway is established because as soon as consciousness is lost, uncontrolled respiratory obstruction may occur, which often results in death. When it is desirable to remove the anesthetist from the operative field during operations about the head, as in plastic surgery, endotracheal anesthesia is preferred. It is also used in most adult tonsillectomies that require general anesthesia.

While we formerly used endotracheal anesthesia in thyroid surgery quite frequently, we now use it only in selected cases, such as substernal goiters or when there is respiratory obstruction prior to the operation. It is not used in intraocular operations because of the increased danger of damaging the eye which can result from coughing. Our surgeons feel it to be desirable in most intrathoracic operations because intrapulmonic pressures can be more accurately controlled, a patent airway can be maintained at all times, and the secretions that accumulate in the tracheobronchial tree can be quickly removed.

In general anesthesia for abdominal operations, particularly those in the upper abdomen, the operation can often be expedited by the endotracheal tube. It permits better relaxation of the abdominal wall and quieter breathing. There is also less likelihood that the intestines will be crowded into the incision and interfere with the surgery. We believe endotracheal anesthesia should be considered in operations for intestinal obstruction, particularly in the severely distended and debilitated cases, to prevent aspiration, which sometimes is fatal even when general anesthesia is not used. In these poor risk patients, the tube should be inserted before the anesthesia is begun.

The use of the endotracheal tube in children poses a somewhat controversial question, probably because laryngoscopy and intubation require particular care to minimize serious edema of the larynx. Some clinicians believe that tonsillectomies in children should have the benefit of endotracheal anesthesia, but our experience has not supported this view. We formerly intubated many more children for operations around the head and neck than we do now. It is the method of choice during certain intraabdominal operations for children when vomiting is likely to occur. There should be no hesitation about intubating the very young infant or even the new-born child in such instances, because the danger of aspiration outweighs the danger of trauma from the tube.

Equipment

Care should be taken to select the best equipment available for endotracheal anesthesia. We have found the Magill type of tube to be the most satisfactory. Made of rubber or plastic, it is relatively atraumatic as compared with the metal tube. Best results with the laryngoscope are obtained with the type with which the anesthetist is most familiar. Having used all available types, we have found the Guedel most satisfactory for the average case. Some of the others, such as Macintosh and Miller, are useful in selected cases. The choice, however, can be developed through experience. We like Magill's double-angle forceps, particularly in nasotracheal intubations.

Selection of the tube as to proper size depends chiefly upon the size of the laryngeal opening. It also depends upon its function as an airway, whether the patient is to breathe entirely through the tube or around it. Obviously, the tube may be smaller in diameter if the pa-

tient is permitted to breathe around it. If the tube is to be surrounded by an inflated cuff or a gauze packing, then it should be the largest one that will easily pass between the vocal cords. The importance of using the largest tube that can be passed into the trachea has been frequently emphasized, but a tube that is too large may exert too much pressure on the mucosa of the trachea. In the intubation of children, special care must be taken to select the proper size tube.

Procedure

The tube should always be carefully inspected to see that it is clean—inside and out. Occlusion of the tube by dried mucus, blood, or other foreign material not only may prevent the passage of air through the tube but also may cause infection or other complications, if the material is aspirated into the lungs. In preparation for use, the tube must be thoroughly cleansed and sterilized and the sterilizing solution completely removed to prevent irritation. Occasionally a tube sterilized in a caustic antiseptic solution has caused necrosis of the trachea, necessitating tracheotomy. A satisfactory method of preparation is to scrub the tube carefully with soap and water, inside and out, to immerse it in 70 per cent alcohol for 12 hours, and then to allow it to dry thoroughly before it is used. Careful attention to such minute details as seeing that an endotracheal tube is properly cleaned goes a long way toward saving the lives of patients under anesthesia and preventing complications.

Before the tube is inserted, it must be carefully lubricated, preferably by a water-soluble jelly containing an analgesic drug.

Topical anesthesia to prevent reflexes when the tube is inserted is a valuable technic, but it is not used as extensively as it should be. In patients who are quite ill, or patients with abdominal distention, it is often advisable to insert the tube under topical anesthesia before any general anesthesia is started to prevent danger of aspiration or hypoxia due to respiratory obstruction. With a little patience and proper surface anesthesia the tube can be inserted with comparatively little discomfort to the patient. For such topical anesthesia, a 4 per cent solution of cocaine is employed, using caution to prevent toxic overdoses. The total amount of cocaine used is usually limited to 100 mg. or 2.5 cc. or the 4 per cent solution.

The proper technic of inserting the tube can be mastered only by much practice. When the patient is under a general anesthetic, the tube may be passed blindly, usually through the nose. Inasmuch as this depends to a considerable extent upon the use of hearing, good respiratory exchange must be maintained. The judicious use of a small amount of carbon dioxide may be helpful. If the patient develops a hyperpnea, the tube can often be passed blindly through the nose under a relatively light plane of anesthesia. It is usually wise for the inexperienced person to develop skill in the use of the laryngoscope so that the tube can be passed under direct vision. The use of the laryngoscope is not without its danger, however, particularly if the patient's muscles are not properly relaxed. Most of the damage to the teeth and the soft structure of the throat and larynx caused by the laryngoscope can be directly attributed to failure to observe this important point.

Many little details have to be kept in mind even after the tube is successfully introduced. The passage of an endotracheal tube is no assurance of a clear airway. Inserted through the nose, the tube may be compressed by a bony spur or nasal deformity and its value as an airway thus virtually nullified. When it is inserted through the mouth, a bite block or prop of some other type must be used to prevent the patient from biting it. The tube may be kinked, or, if an inflatable cuff is used, it may be unduly compressed. All of these things have to be watched.

Once the tube is in place, how can an obstruction be recognized? The amount of respiratory exchange may act as a guide, or the patient may develop a paradoxical type of respiration, with the chest wall being sucked in instead of expanding on inspiration. In adults, this may be detected by retraction of the intercostal or supraclavicular spaces. In children, due to the lack of stability of the thoracic cage, the whole chest wall may be sucked in.

Anesthetic Agents

In endotracheal anesthesia, ether is still used most extensively and with the greatest degree of success, even though various other general anesthetics or combinations have been applied effectively.

The introduction of curare has widened the application of the endotracheal technic with certain agents such as nitrous oxide and pentothal. It reduces the reflex activity to a degree that makes possible the use of smaller and therapeutically safer concentrations of these drugs.

Hazards

The frequency and seriousness of complications that may follow the use of endotracheal anesthesia are sufficient to make one pause each time this method is considered. I do not mean to imply that we should avoid using it if there are reasonable indications in its favor, but promiscuous use of the endotracheal tube merely to make it convenient for the anesthetist is a very questionable practice.

Trauma caused by endotracheal tubes has resulted in granulomas of the vocal cords. Patients have died suddenly after insertion and withdrawal of the tube, probably because of reflex cardiac disturbances or hypoxia. Overdistention of an inflatable cuff has caused fatal necrosis of the tracheal wall. The tracheal wall has been torn by rupture of the cuff, with death resulting. Although it is often convenient to stiffen the tube with a stylet, I hasten to point out that a stylet, improperly used, may be dangerous. The sharp-pointed end of the stylet has at times protruded through the tube, perforating the trachea or pharyngeal mucosa. Damage to the pharynx with a laryngoscope or a metal endotracheal tube has occasionally occurred. Deaths have followed mediastinal puncture.

These and other dangers should have a sobering effect on all who use the endotracheal technic. It should always be considered and treated as a major anesthetic procedure.

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THE FLEXION TREATMENT FOR LOW BACK AND SCIATIC PAIN

By
W. Compere Basom, M.D., M.S. (Or.)
Louis W. Breck, M.D.
and
Morton H. Leonard, M.D.
All Of El Paso

The authors have had very excellent results by the use of the flexion method of treatment. This treatment is definitely indicated for patients whose pain in the lower back and sciatic nerve area is due to a herniated disc or due to narrowed intervertebral foramina with subluxated facets and posterior narrowing of the lumbo-sacral joint. This latter condition of course has been well described by Williams. The flexion treatment is both surgical and non-surgical.

The non-surgical treatment is carried out by training the patient to carry the back and lumbo-sacral joints in a flexed or flat position. This flexed position widens the lumbo-sacral joint posteriorly. This will, in turn, allow more space in the intervertebral foramina, and it may reduce the posterior protrusion of the disc in some instances.

The patient must learn how to rotate the pelvis forward and hold it there. He is taught how to do exercises to encourage this forward rotation. The exercises are done in a supine position. The first one consists of bringing the head and shoulders off a table. The second one is performed by raising the buttocks off the table with the knees flexed and the feet fixed on the table. In the third one, the knees are brought up to the chest, with the hands resting on the knees. The knees are rocked up and down gently. Each exercise is done four times and gradually increased to fifteen times. Exercises are performed twice a day. The patient is also given physical therapy in the form of diathermy at the office or infra-red heat at home at least three times a day.

In acute and subacute cases a cast is applied about the trunk with the patient in a flexed position. The cast is carefully moulded over the sacrum, the dorsal spine, and the abdomen to help hold the patient in a flexed position. This is done before starting the exercises. Sometimes in the acute severe cases the patient is hospitalized for a few days in a flexed position in bed before applying a cast. In some chronic cases a flexion back brace can be utilized with the same effects as the cast. It is emphasized that all conservative methods are tried and all are exhausted before surgical intervention is indicated. The authors feel that about ninety-five percent of their cases can be managed conservatively.

The authors also believe that the results of operative management have not been as good as they should be. Many cases have been seen by us who have been operated elsewhere by well-trained surgeons but who still have troublesome or even disabling symptoms and findings. The authors have collected a series of twenty-five cases who were done elsewhere and who had low back fusion both with and without herniated discs. These cases had ninety percent good results for ordinary activities. However, with heavy activities fully half of them developed symptoms of low back or even sciatic pain recurrence. All of these cases were examined roentgenologically. Lateral views with forward and backward bending, and also antero-posterior views with bending to each side were made. Forty-eight percent or rather twelve of these cases had definite demonstrable pseudoarthroses. These observations emphasize the fact that the patient on follow-up examination must be carefully evaluated and also examined directly in order to evaluate the result accurately and scientifically. There is also the suggestion that the standard spine fusion procedure, which all of these had had, definitely needs improvement.



Figure 1.

Case I. Lateral view of lumbo-sacral spine showing marked narrowing of the lumbo-sacral joint and its foramina. This patient had low back pain and severe sciatic nerve pain in the right lower extremity.

Since 1940 the authors have used an interspinous bone block spine fusion procedure. This procedure corrects the narrowed lumbo-sacral joint posteriorly, the subluxated facets and the narrowed intervertebral foramina. In some instances the protruded disc can be reduced by flexion. However, the authors now explore and remove the disc surgically if it is present. This type of fusion provides for internal fixation immediately and does not depend on bony fusion later for firm fixation

of the spine. The spine fusion is performed with the use of a large piece of tibial bone. The spinous processes in the fusion area are notched. The bone grafts are notched on each end and firmly wedged in place between the spinous processes with the patient in flexion. This maintains correction obtained by flexion. The bone blocks are used for each interspinous space to obtain the accurate intervertebral correction. The laminae are also roughened up and additional bone grafts are added to each side of the area to aid in the fusion. The inferior third of the spinous process just above the fusion area should be removed to avoid impingement in extension of the spine.



Figure 2.

Case I. Lateral view of the lumbo-sacral spine after the inter-spinous bone block graft and spine fusion procedure showing that the lumbo-sacral joint has been markedly widened and its foramina markedly opened. This patient also had a herniated disc which was removed. His symptoms were completely relieved following the operation.

An "H" shaped or clothespin graft was first reported by Gibson in 1931. He used a large massive graft; removed spinous processes in the area to be fused; created deep notches in each end which enclosed several additional spinous processes at each end of the fusion area. He used this as a method of fixing the graft to the spine. We submitted the corrective interspinous bone block graft paper for publication in the spring of 1942. An article, "Clothespin or Inclusion Graft for Spondylolisthesis or Laminal Defects of the Lumbar Spine" was written by Bosworth and published in November 1942. He used a similar shaped graft. He did, however, use the flexed position to distract the spinous processes and thus secure leverage action which he actually found distracted the articular facets and opened



Figure 3.

Case II. An ero-posterior view of the lumbo-sacral spine, in another patient, showing the inter-spinous bone block grafts in place, clearly outlined between the fourth and fifth lumbar vertebrae and fifth lumbar vertebra and sacrum. The standard spine fusion technique was also utilized. A herniated disc was not present. The symptoms were due entirely to nerve root pressure from the narrowed foramina. This patient prior to surgery was completely incapacitated. After surgery he was able to return to heavy railroad work at the end of six weeks. He has completely recovered and has no symptoms at the present time.

the intervertebral foramen and also separated the vertebral bodies.

Two months later our paper was published. We stressed the use of the flexion spine fusion procedure for cases of sciatic neuritis secondary to narrowing of the intervertebral foramina, subluxation of the facets and narrowing of the posterior part of the intervertebral space with consequent nerve root pressure. We also recommended it for cases with herniated discs. Our graft procedure of course utilized accurate individual bone blocks for each interspinous space and also utilized additional interlocking grafts lateral to the main mass of grafts.

Moore has also utilized a self-locking prop bone graft with corrective principles.

McKeever is also using an interspinous bone block type of graft with a bone peg type of fusion for the facets and has found that this gives very firm internal fixation and allows relatively early ambulation.

McBride has recently published a very excellent procedure of trans-facet fusion for cases which need a flexion fusion.

A new era has been reached in spine fusions. It is

actually now possible to use correction in spine fusion and also firm mechanical fixation immediately.

The internal fixation provided by the interspinous bone block type of fusion permits ambulation in three weeks. In many instances the patient can return to heavy work at the end of six weeks from the time of operation. This represents a marked advantage to the patient.

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Establish AF Medical Reserve

General Hoyt S. Vandenberg, Chief of Staff, U. S. Air Force, announced today that applications are being received for commissions in the newly created Air Force Medical Reserve. Physicians, dentists, nurses, and other medical personnel who served with the Army Air Forces during the war may make application through the Air Adjutant General, U. S. Air Force, in Washington.

HELP THE HANDICAPPED TO HELP THEMSELVES

Goodwill Industries is not a charity, but a chance for employment, training, and opportunity. Goodwill Industries has for its objective the rehabilitation of each handicapped man or woman regardless of race or religious faith.

At present, in El Paso six service clubs have furnished two directors each as a nucleus for this organization. Added to these twelve, are an equal number of public spirited men and women who will do their part to establish and maintain this organization in El Paso.

Your help is requested in a campaign to raise ten thousand dollars which will be increased by $7,500 donated by the Goodwill Industries of America at Milwaukee, the parent organization. This will provide initial capital of $17,500, the minimum amount needed to purchase and install equipment, make repairs on quarters, and to cover other expenses incidental to the establishment of this organization in El Paso.

There is no profession that could possibly understand the rehabilitation of the handicapped as well as those of the medical profession. Hence, SOUTHWESTERN MEDICINE solicits its readers in the interest of the physically handicapped. Please send your contributions to Goodwill Industries of El Paso, P. O. Box 191, El Paso, Texas.

Airsick Remedy Gets Volume Trial

A remedy called Dramamine, produced by G. D. Searle and Company of Chicago and believed to prevent or cure airsickness, is being given out to passengers on LAMSA Airlines planes between El Paso and Mexico City.

The remedy was pioneered in 1947 when the allergy clinic of Johns Hopkins University and Hospital first put Dramamine under experimental investigation for its possible value in the control of hay fever and hives. Through accident it was learned the remedy was useful in combating carsickness, seasickness and airsickness.

Its first volume use occurred on the U. S. Army Transport General C. C. Ballou during a rough crossing of the North Atlantic between Nov. 27 and Dec. 7, 1948. In a controlled experiment, the remedy prevented seasickness in all but two of 134 men who took the remedy on start and throughout the voyage. It was also given to 418 cases of seasickness, and of this number 407 were completely relieved of symptoms within one hour after the first dose. No detrimental side effects were observed.

BOY'S CLUBS OF AMERICA

Today throughout the country there are three hundred Boys' Clubs with over 275,000 boy members between the ages of eight and 20 years. Sociologists believe that the number of clubs should be increased in the near future to at least 1000.

Three million boys live in the shadow-lands of our cities where the most fruitful soil is found for the growth of crime and subversive isms. They live in crowded homes where there is little to do, where there are tensions, quarreling and bickering. They seek their companionship and play on the streets.

The Boys' Clubs of America, headed by the illustrious Herbert Hoover, has established and maintained in these crowded areas clubs offering recreational facilities for these boys. The doctor has, and will continue to cooperate, in the existing and the future clubs.

His part is the annual check-ups which maintain a healthy body for these boys, and with a healthy body the health of the mind is facilitated.

The Clubs are appealing for funds. Any contribution will be gratefully received.

Address all contributions to Boys' Clubs of America, 381 Fourth Avenue, New York 16, New York.

An Environmentalist

A small boy was brought to a clinic for an examination, by his mother, an extremely talkative woman. During the preliminary quiz period, the doctor noticed that the boy didn't seem to be paying much attention to the questions. "Do you have trouble hearing?" he asked.

"No," the boy replied, "I have trouble listening."

Lynn Wimmer, quoted by Norine Foley in Chicago **Daily News.**

The Reader's Digest, July, 1949.

El Paso Tumor Clinic

CASE NO. 369

Dr. Breck: My case is a private patient, first seen by Dr. Morrison because of pain in the left hip and buttock. She is a widow, employed as a bookkeeper, 60 years old. She states that about four or five months ago she first noticed pain in the hip and buttock region which radiated thigh-ways and was aggravated by climbing stairs. Physical examination revealed marked tenderness and pain over the tuberosity of the left ischium and pain on extreme motion of the hip in all directions. Radiographic examination was done; and Dr. Fuchlow will describe the findings:

Dr. Fuchlow: There is a radiolucent lesion, non-expansil, involving the upper two-thirds of the ischium, corresponding to the tuberosity. The lesion appears to approach the inferior margin of the acetabulum. The outline is sharply demarcated. There is no cortical destruction. Nothing else significant was found in the lumbar spine, pelvis, or hips. Survey roentgenograms were also made of the chest and skull, but these contributed nothing significant. Because of the age of the individual and the apparent anemia and history of pain, the possibilities are as follows:

1. Solitary myeloma;
2. Metastatic carcinoma;
3. Giant cell tumor.

These roentgenograms were also seen by Dr. Boverie who concurred with these findings, except that he felt that metastatic carcinoma should be listed first. Recommendations were made for blood studies and biopsy studies.

Dr. Breck: Blood studies reveal the following: RBC—4,010,000, Hgb—78 per cent or 12 grams, WBC—9,450. Blood calcium, phosphorous, and phosphatase studies were normal. Sedimentation rate was moderately elevated. Westergren method revealed a 32 mm. drop. Albumin/globulin ratio was within normal limits. Urinary Bence-Jones protein, negative. It was siggested to Dr. Hart that a needle biopsy be done, but he did not think it advisable in this case. After due consideration, the patient was again referred to me for surgical biopsy. Before revealing the diagnosis and reviewing the possibilities, perhaps Dr. Leonard could throw some light on the case.

Dr. Leonard: It is exceedingly rare to find a giant cell tumor in this age group. I would think of metastatic malignancy because of the age and appearance of the lesion. As I understand it, the anemia was not severe. I have seen eosinophilic granuloma lesions as large as this in the rib in patients 40 years old. This is one more possibility that must be considered. Giant cell tumor is also uncommon in this particular bone.

Dr. Garrett: Could this be a manifestation of Hands-Christian-Schuller disease, or do you regard this entity in the same family as eosinophilic granuloma?

Dr. Breck: There is increased evidence to support the idea that both these entities could be the same.

Dr. Fuchlow: One more possibility that perhaps should be mentioned is monostotic fibrous dysplasia. Roentgenologically it could well be that, although fibrous dysplasia lesions usually show expansion, this does not. Furthermore, the history of four or five months of progressive pain and the anemia would speak against it.

Dr. Breck: The biopsy was done with considerable difficulty. I scooped out quite a bit of heavy jelly-like material which immediately suggested the diagnosis of giant cell tumor to me, and I was gratified to learn that Dr. Hart made a flat diagnosis of giant cell tumor.

Dr. Leonard: I have seen the slides and found a number of xanthoma cells present which prompted the thought of eosinophilic granuloma again. However, I discussed this with Dr. Hart and he assured me that this can occur in giant cell tumor and the slides were characteristic and typical of giant cell tumor.

Dr. Breck: Giant cell tumor is a benign tumor found commonly in early adult life. The x-ray appearance is fairly characteristic, showing a capsulated radiolucent lesion, having the appearance of multiple lobulated masses and there might be slight expansion. These tumors, if left alone, may become malignant—in three to five per cent of the cases. Recurrence is common and must be guarded against. Treatment of choice is complete radical excision of the tumor. This of course, is not always possible without mutilating the patient, but where the tumor is in a bone which can be excised wholly or in part, we prefer to treat them that way. Common treatment is thorough excision, curettment and filling the cavity with multiple bone chips. X-ray therapy has been used and Dr. Fuchlow will tell you about that.

Dr. Fuchlow: I quite agree with Dr. Breck that, if the lesion is resectable, it would be the best form of treatment. In the past, broken dosage method of radiation therapy has been used with a reasonable degree of success. For the past 8 or 10 years, however, most observers feel that these tumors should be treated intensively with protracted radiation using doses comparable to those used in malignant tumors. Recurrences have lessened with this management, and it is comparable to the best surgical management.

Dr. Leonard: I have seen and heard of instances in which pathological fractures occurred as the result of intensive radiation to the pelvis for malignancies of the pelvis. Are we running into that danger here?

Dr. Fuchlow: Fractures of the femoral neck have been reported in a number of cases, but we believe the incidence of fractures is due to relatively poor nutrition of the femoral head and neck. I do not think this would apply to any of the other bones of the pelvis.

Dr. Breck: Technically, to remove this tumor we have to bear in mind that the patient would be disabled for some time, and there is a chance of partial disability and pain in the hip after surgery. Then, too, this patient is 60 years old. In a younger patient, surgery might be considered more seriously. As Dr. Fuchlow points out, the lesion extends dangerously close to the inferior margin of the acetabulum. I, personally, think that x-ray would offer more than we can in surgery.

Dr. Leonard: I quite agree. I think radiation therapy in this particular case is the treatment of choice when all things are considered.

Dr. Prieto: If there is a recurrence after that much intensive radiation, would you treat the recurrence with more x-ray or could surgery be done then?

Dr. Breck: I do not look for that to happen, but I am sure surgery could be done.

Dr. Fuchlow: Since there are no contra-indications to radiation therapy, we will then advise that treatments be instituted as soon as possible, and the patient will be seen in three months with recheck roentgenograms.

INFLAMMATORY EMERGENCIES OF THE AIR PASSAGES

By John D. Martin, M.D., El Paso, Texas

Among the bona fide emergencies which occasionally confront the physician (and constrict his coronaries) none is more harrowing than serious obstruction of the air-passages. That death is imminent is known to the patient and his family alike, and it is not an easy way to die. The purpose of this paper is to re-emphasize certain points in the diagnosis and treatment of some of these cases with the idea of dealing more efficiently with the emergency when confronted with it, or better yet, preventing the obstructive emergency altogether. The latter goal can often be realized by early diagnosis and prompt and vigorous treatment.

Except as they figure in the differential diagnosis, obstructions resulting from neoplasms or foreign bodies are omitted from this discussion as not relevant. It is supposed that such possibilities will have been eliminated by history, physical examination, and X-ray, and even more definitely by endoscopy. (Coincidence being what it is, it is quite possible to have foreign bodies in the airways along with an inflammatory condition. I had one such case, an adult with laryngotracheobronchitis who nearly choked on an aspirin tablet that "went down the wrong way".)

Of various inflammations that can obstruct the airway, some are fortunately rare; Vincent's and Ludwig's angina, erysipelas in the throat, and pharyngeal abscess are examples. Even though tracheotomy may be required to prevent strangulation, the nature of the obstruction is readily recognized and early and adequate local and systematic treatment is very likely to forestall serious respiratory embarrassment. Obstructions from syphilis and tuberculosis develop slowly enough as to afford considerable time for diagnosis and this phase of those diseases, thanks to penicillin and streptomycin respectively, is not so dreaded as in former years and rarely constitutes a true "inflammatory emergency". True abscesses may develop in the larynx secondary to infectious diseases, notably influenza, typhoid, and exanthemata, foreign bodies, or trauma; in such cases there is always thickening and tenderness to external palpation over the site of the endolaryngeal abscess [1]; the abscess may be seen on direct or sometimes indirect laryngoscopy; the voice may be muffled or lost and the patient presents a picture of systematic toxemia. Such a condition may cause sudden and profound obstruction of the larynx and require tracheotomy, which had best not be postponed too long. The treatment is surgical, opening the abscess under direct laryngoscopy in the head low position, and supportive, including chemotherapy.

Increase Noted

However, the overwhelming majority of inflammatory obstructions we see are secondary to diphtheria, supraglottic laryngitis, and the disease entity known as laryngotracheobronchitis. The latter term came into usage after the 1918 pandemic of influenza and is accredited to Chevalier Jackson [2]; before that time "croup", diphtheria excepted, was more or less a generic name for the various obstructive lesions of the air-passages, and the patients lived or died under that diagnosis. Certainly pediatricians and otolaryngologists alike are in agreement that the condition is seen much more often now than formerly. Early diagnosis is no doubt a factor in this increase in incidence, while perhaps the warmer but less humid heating systems we have now may be a factor. Dr. Simon Jesberg [3] recalls that in his boyhood most cases of "croup" seemed to recover on steam inhalations and palliative oils and ointments applied to the throat and chest, but states that his experience is now different.

Incidence

Acute laryngotracheobronchitis presents generally a definite clinical picture which may be inaccurate when applied to an individual case. Some of these variations may be explained by the various types of pathogens which may cause it, these organisms being usually the hemolytic streptococcus, staphylococcus aureus and hemolyticus, Strep. viridans, Hemophilus Influenzae, and pneumococcus. Various organisms predominate in various times and places. [4]. It is interesting to note that a similar disease occurs in fowls and in this avian form of the disease a virus has been demonstrated as the causative factor [5]. The organisms cultured from a throat swab are not necessarily the same as those recovered from the site of the disease by bronchoscopic aspiration or at autopsy. Be the pathogen what it may, the principal factor in predisposition to the disease and subsequent clinical course is anatomic, based on the age and size of the patient: 69 per cent of 549 cases, reported by one investigator, were under two years and only five per cent over six years old. In infancy and early childhood the conus elasticus contains a large amount of loose areolar tissue which swells readily, the air passages are actually smaller in proportion to a given amount of mucus or exudate much smaller than in an older person, and these younger patients have very little expulsive power in the form of a cough; their weak "bechic blast" is simply not able to cope with the thick, tenacious exudate characteristic of the disease. Other strikes called against these very young patients are their low immunity and the ease with which a severe toxemia diminishes their cough reflex. In all ages the incidence of the disease is about two and one-half times greater in males than in females and it appears that even when females contract the disease they less commonly have it of such a severity as to require tracheotomy [6, 7]. In laryngotracheobronchitis this thick, gummy exudate just described tends to obstruct the smaller bronchioles. Such obstruction leads to atelectasis that may easily be mistaken for pneumonia. The bronchial and alveolar walls are infiltrated and the glandular elements are damaged and sometimes destroyed. (Hilding described a case with so much destruction that the epithelium had been sloughed off down to the last layer of stellate cells next to the basement membrane, without "a vestige of a cilium anywhere".)

The early symptoms in laryngotracheobronchitis are usually those of a head-cold, which may go on from a day to a week, usually about two days, with a croupy cough and hoarseness. The hoarseness develops later than in diphtheria, in which disease the cords are more affected. Respiratory distress, as it develops, is seen on both inspiration and expiration, and the breath sounds have a characteristic "crowing" wheeze. There is no difficulty in swallowing and little or no pain referred to the throat. The fever averages 102-103 degrees and

becomes higher only in the later stages of the disease, to 106 or more, which is of grave prognostic import. As the disease progresses the respiratory obstruction becomes more marked and the patient develops a cyanosis; the patient is inclined to be restless; the pulse is rapid, the respiration shallow and rapid, with retraction of the suprasternal and intercostal spaces and of the epigastrium. This latter may be obscured by tympanites. The principal feature to be soon on direct examination is the immense swelling of the subglottic tissues which extend as fiery-red mounds into the lumen. These pads of inflamed tissue can be visualized by a good soft tissue X-ray taken from the side, when there is time for such a procedure. The exudate bathing these pads, and seen below them, can be wiped away without leaving a bleeding surface, in contradistinction to diphtheria. Death may result from anoxia, toxemia, or circulatory failure. It is well to interfere before the patient reaches this stage, though all too often, especially at the County Hospital, the patient is moribund when brought in. Even with the best of treatment some patients die. Twenty years ago the mortality rate of laryngotracheobronchitis was very close to 75 per cent, while now it should be less than 10 per cent in patients seen reasonably early. One author [7] reports a series of 52 cases (requiring 15 tracheotomies) without a single death. This reduction in mortality has been accomplished not only by the advent of the antibiotics, but by the doctrine of earlier tracheotomy and by better supportive treatment in the form of oxygen and humidity controls, and by earlier recognition on the part of the profession of the seriousness of the disease [8]. The local conditions have not been affected sufficiently by antibiotics as to lessen the need for mechanical intervention in many cases [9].

Epiglottitis

When streptomycin became available it was noted that certain cases of supposed laryngotracheobronchitis which had not done well previously on the sulfas and penicillin, showed a striking improvement when given the newer drug. Certain clinical features of these cases, now described under the term "Epiglottitis", had been noted: the patients got sick suddenly and overwhelmingly, perhaps going to bed in apparent good health and yet arousing their parents and pediatrician at 2 a. m. with severe and dangerous symptoms of toxemia and respiratory obstruction. (These cases get worse by the minute and the otolaryngologist has to arouse himself as well.) These children, if old enough to do so, complain of pain in the throat and inability to swallow because of that pain; they may even drool their saliva rather than swallow it. The voice is muffled but not hoarse; and there is an inspiratory stridor. The fever is high, 104 to 106 degrees right away, and the dyspnea develops rapidly and soon becomes profound; these children are prostrated and show an ash-colored pallor rather than a cyanosis; they are apt to sit up in bed with their tongues out, gasping for air (and swallowing some of it, which causes tympanites which in turn pushes up against the diaphragm and causes further respiratory embarrassment), whereas the patient with moderate laryngotracheobronchitis lies rather quietly. The diagnosis can often be made by looking into the mouth and seeing a fiery red epiglottis, swollen to perhaps ten times its normal size, over the curve of the tongue. It is advisable not to depress the tongue to facilitate the view unless prepared to do a tracheotomy there and then. On laryngoscopic examination (with a bronchoscope of course at hand to relieve respiratory obstruction should it become complete), the striking feature is the enormous epiglottis, with the aryepiglottic folds and arythenoids sometimes involved, in which case the false vocal cords may be greatly swollen. The swollen pads such as described in laryngotracheobronchitis are not seen, nor is the epiglottis much affected in laryngotracheobronchitis. These cases as seen in small children result from an infection by the Haemophilus Influenzae, Type B, and as Alden Miller states, "are primary and present a consistent typical clinical picture of symptoms and findings" [10]. This symptom-complex has been previously described by Sinclair [11], Alexander [12] and others [13, 14]. The organism can be readily demonstrated, when the type-specific rabbit anti-serum and a trained technician are together readily at hand, by use of the "Quelling" reaction: one drop of methylene blue is added to one drop of an infusion from the swab or to material smeared directly on a slide by the swab; a loopful of H. Influenzae type B rabbit antiserum is added, a cover slip set in place, and the preparation observed immediately and after thirty minutes for an enlarged capsule about a small, short bacillus or coccobacillus. A Gram stain will show H. Influenzae to be Gram negative. At the time the smear is made another one should be made for search for the Klebs-Loeffler bacillus by stain and culture. The white count always shows a preponderance of polymorphonuclear cells, to 90 per cent or higher and may show a leucocytosis of over 40,000. (In 1944 I reviewed the tracheotomies that had been done in all the hospitals in El Paso for a period of 20 years previously; in so doing I read many case histories which describe this "Epiglottitis", and such a high white count and especially poly. shift were often associated with a fatal outcome.)

Diphtheria

We do not see as much diphtheria as in the past, but it occurs often enough to merit consideration in such a discussion as this. The Laryngeal manifestations may be associated with diphtheria in the pharynx or nose which has already been discovered. The onset is more insidious and the respiratory obstruction may be several days in developing. Hoarseness is relatively early because the membrane forms on the true vocal cords. The fever is relatively low and there is no difficulty in swallowing. On direct examination the obstruction is seen to consist mostly of the thickened true membrane (which on removal leaves a bleeding surface) without so much swelling. Pediatricians who see diphtheria frequently may be able to make a working diagnosis from the characteristic "mousy" odor. Smear and cultures will confirm the diagnosis in due time, but it is well in a suspicious case not to depend too much on one negative smear or culture.

Treatment

The treatment of these three conditions will be discussed together. From the otolaryngologist's standpoint, insofar as obstruction of the airway is concerned, they may alike require a tracheotomy. In an overall review of the literature on laryngeal obstruction one is impressed with the slight praise with which intubation is damned. If one knows the child has diphtheria, "intubation is a satisfactory procedure, provided the patient is in a hospital where there is a constantly and immediately available trained intubator who can promptly replace the tube in case it should be spontaneously expelled; and also provided the child is not too feeble from toxemia"

(1). The author then makes a good case for tracheotomy. The intubation tube may force exudate down ahead of it which cannot be coughed up and will block the tube at its lower end. It does not permit drainage by suction of the airway below the larynx (as does a tracheotomy), it can easily be coughed out, ulceration and later laryngeal stenosis may follow its use, and in the case of epiglottitis and tracheobronchitis it is not mechanically able to relieve the obstruction above or below the tube.

The best treatment is prophylactic. Children and adults when Schick-positive and exposed, can and should be immunized against diphtheria. Children with acute upper respiratory infections should be kept indoors in a warm, moist room, rather than be allowed to run about outdoors sucking cold raw air down their throats, especially through their open mouths; respiration through the nose is to be encouraged. Attention to general health is important.

Remedial Treatment

The remedial treatment consists in brief of (1) combating the infection, whatever it may be, and (2) preventing exhaustion, dehydration, the use of drugs which depress the cough reflex (i. e., atropine and opiates and barbiturates, and the prevention of asphyxia.) If the child is suffering from real respiratory obstruction (note re. laryngisimus stridulus) he should be given the benefit of a direct laryngoscopy, this maneuver being preceded by spraying the throat with pantocaine or butyn but with no other anesthetic or sedation. The true nature of the condition can then be seen and treatment directed accordingly; if there is a foreign body, it can be removed. If the case is an early laryngotracheobronchitis aspiration of the muco-pus from the larynx and trachea with subsequent supportive treatment may relieve the obstruction to such an extent that no further operation is rquired. If I cannot be assured by competent authority, which means the attending pediatrician or family doctor, that the child has been immunized against diphtheria I recommend that such children have a dose of diphtheria antitoxin without waiting for the laboratory reports to return. Penicillin is started immediately, 20,000 units every three hours (more in adults) for the first 24 or 48 hours, after which the patient may be more comfortable receiving one or two doses daily of one of the more slowly absorbed penicillin compounds. Some authorities give sulfadiazine by mouth or parentorally in addition to penicillin; this combination may have a greater bacteriostatic effect but makes even more necessary an increase of fluids to carry off the sulfa crystals, perhaps making gavage or hypodermoclyses necessary. Since the advent of penicillin and streptomycin, other authorities have discontinued the use of sulpha in these cases. Even though in a clear-cut case of epiglottitis one would feel reasonably sure in trusting his patient to streptomycin alone, it is my custom to use both penicillin and streptomycin in the treatment of these obstructive inflammations. Depending on the age and size of the child, the streptomycin is given in eight equal daily doses, usually starting with one Gram per 24 hours in most children.

Sedation

Sometimes the child is in such a grave condition that a tracheotomy is done, over a bronchoscope, on this first examination. It is always amazing how cooperative a patient is to bronchoscopy, without any sedation, when he is in the throes of real respiratory embarrassment. However, if there is not too much air-hunger one can afford to do some watchful waiting to see if the chemotherapy and general measures will suffice. The general measures consist of placing the patient in a room or tent with a humidity of 90 per cent and a temperature of from 68-75 degrees F. Oxygen concentration should be around 50 per cent. Some hospitals have rooms which can meet these conditions, but the best substitute in most localities will be one of the tents which are available. (Such tents are available through various supply houses; one of the best is that put out by Walton Laboratories of Irvington, N. J.) These tents have a distinct advantage to those persons in attendance on the case. The patient's fluids are to be kept up to a full intake, and in many instances where the humidity and temperature are not in good balance, so that the patient sweats profusely, he will have to be plied with them; almost all patients, even when nearly comatose, can be made to take a good volume of water if it is put into the mouth, cool, by dropper. These patients are often restless and there will be a desire on some one's part to "quiet them". The use of atrophine to dry the secretions or opiates to afford rest all too often have quieted such patients permanently, by making the secretions too thick to be coughed up or by paralyzing the cough reflex so that the patient "drowns in his own secretions", as Chevalier Jackson puts it. The barbiturates, though less toxic, also to some extent depress the respiratory reflex. For my part I will put up with a good deal of restlessness on the part of these patients rather than use any sedation on them. Respiration can be aided by the use of enemata or a rectal tube to relieve tympanites if that is present.

Tracheotomy

Many patients will recover on such a regime (not so many with epiglottitis; these nearly always demand a tracheotomy along with the first laryngoscopy). But if the obstructive process continues, not showing the reasonable improvement one would expect from these measures, with retraction of the suprasternal fossa, intercostal spaces, and epigastrium; with the development of an increasing duskiness or of an ash-gray pallor; with an increasing restlessness that prevents normal sleep, not to be confused with a terminal exhaustion from fatigue and toxemia; then tracheotomy is indicated. This procedure is best done under infiltration anesthesia over a previously inserted bronchoscope: the bronchoscope affords immediate relief of the obstruction and permits some of the exudates to be aspirated, while the operation is itself simpler when one can cut down in the midline on such a hard surface (attention, of course, should be given the various structures, especially large veins and thyroid isthmus, met with between the skin and the 'scope); also, there is far less danger of cutting too deep and penetrating through the membranous posterior wall of the trachea into the oesophagus when a bronchoscope is in place. Moreover, the bronchoscope will have eliminated the high intrapulmonary pressure which develops quickly after severe laryngeal obstruction, thus lessening the possibility of emphysema and mediastinal injury. I will not here recount the detailed technique of a tracheotomy. My observation is that a relatively inexpert one done early enough is far better than a meticulously proper one done too late; if ever confronted with such an emergency, avoid hemorrhage by staying in the midline and attention to the thyroid isthmus; bear in mind the membranous nature of the posterior party wall of the trachea, and stay at the level of the second, third, and fourth tracheal rings. After the airway is estab-

lished, the patient may be so relieved that he will fall into natural slumber before the operation is completed.

The tracheotomy is not the final solution to the trouble. Thereafter the patient must have in attendance the most competent tracheotomic nurses available; it is of importance to instruct the nurses that the patient must be observed closely since he cannot cry or call for assistance. If the patients are old enough to understand I like to give them a bell with which to ring for assistance, in case of need. The tube must be kept cleaned and attention given to the lower trachea with gentle suction through a soft rubber catheter. A few drops of saline or sodium bicarbonate solution placed in the tracheotomy tube every few minutes will help to prevent the formation of crusts; in this connection I have used with satisfaction a solution of Al-caroid which seems quite effective in dissolving crusts.

The other measures as outlined under supportive treatment are to be continued. Blood transfusions may be required.

The most common cause of death locally is that the patients are already moribund on admission to the hospital. Other causes are too long delayed operation, or inadequate operation such as intubation when it cannot serve the desired purpose or simply overwhelming toxemia which may kill a young child before he develops any real respiratory embarrassment (I lately had such a case—he seemed to be doing fine on expectant treatment and was breathing nicely, but died very suddenly.) The prognosis must be guarded. It is of interest to note that pneumothorax may be found at autopsy in cases where no surgery has been done; this is supposed to result from the previously mentioned increase in intrapulmonary pressure resulting in rupture of some of the alveoli.

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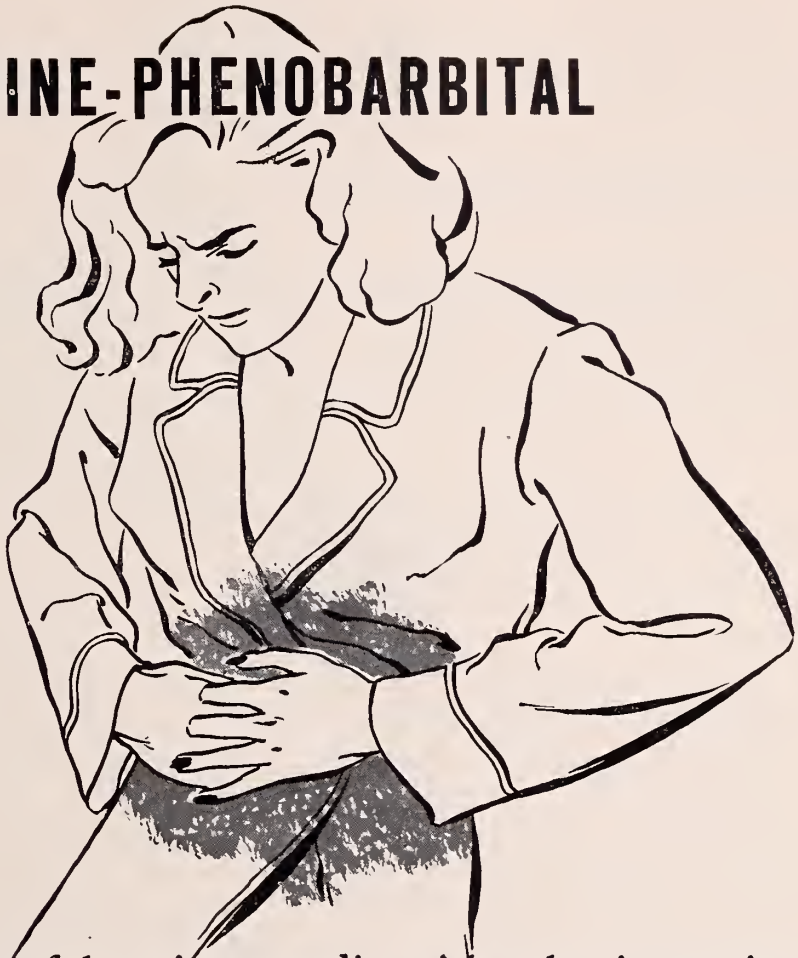
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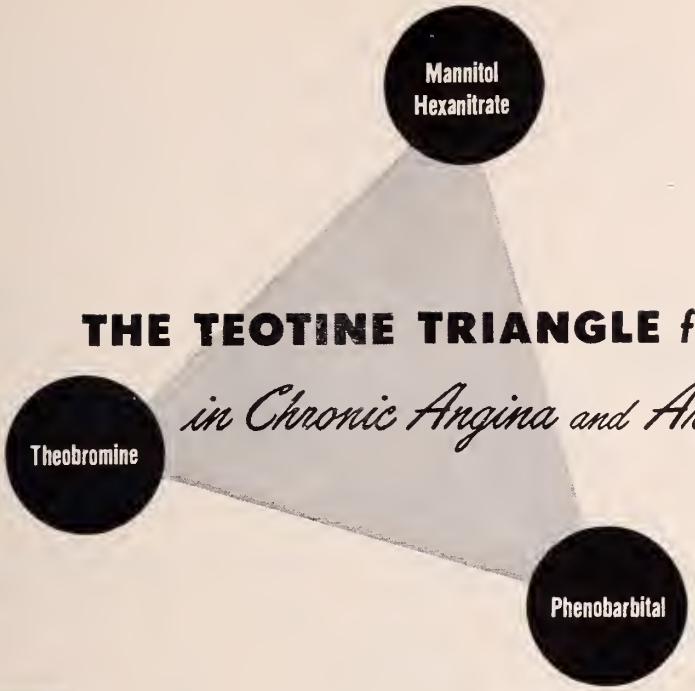
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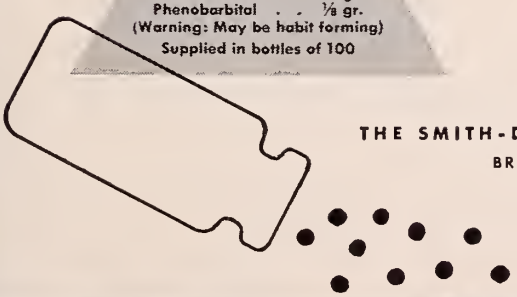
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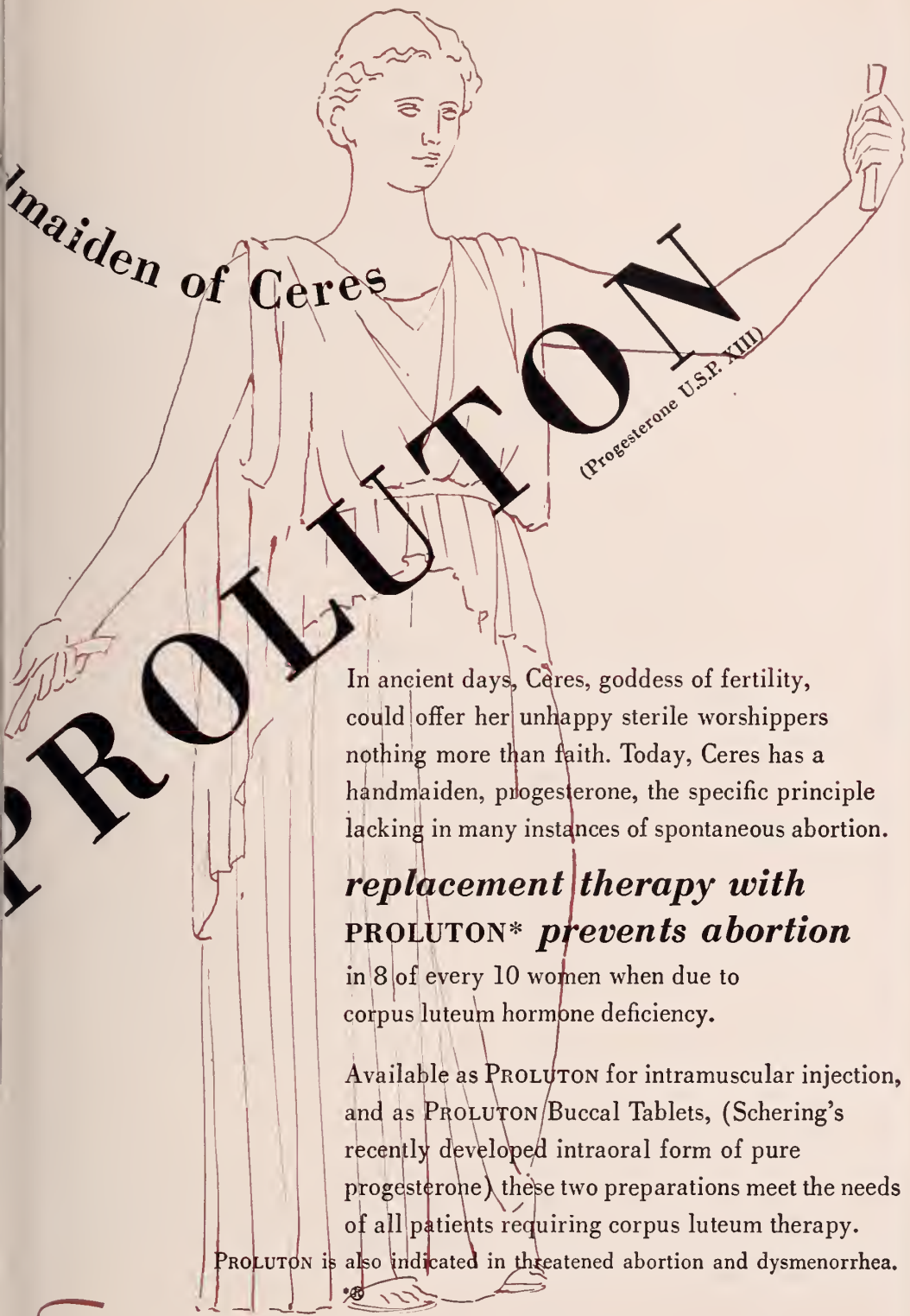
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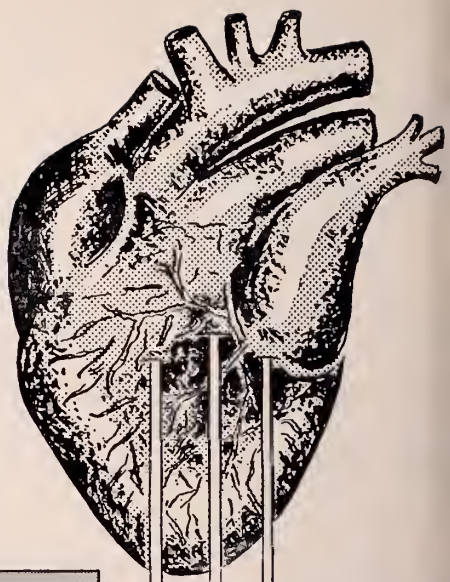
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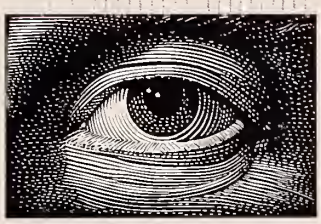
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2. Thygson, P., in discussion on Mayer, L. L.: Arch. Ophth. 39:232, 1948.

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A NECESSARY RESEARCH PROBLEM

The controversy existing as to the proper therapy for treatment of venous thrombosis still goes on. Very recently Dr. Alton Ochsner made the statement, in discussing this problem, that in New Orleans they were attempting to approach this problem on a middle ground, using both anti-coagulant therapy and surgical ligation. This, of course, is as it should be. There can be no doubt that there has existed a great deal of dogmatism as regards this subject; and perhaps the treatment of venous thrombosis has been overemphasized.

The real treatment of venous thrombosis is its prevention. While it is fully understood that progress has been made as regards prophylaxis, such as various types of exercise, early ambulation, etc., we are still at a loss to decide which patient will develop venous thrombosis, and which patient will not. Various research projects have been instituted to study the prophylaxis, but our progress to date has not been exceptional.

Attempts have been made to study the degree that the platelets develop adhesive power. This co-efficient can not be accurately determined. The patient's tolerance to heparin has been studied, and the heparin tolerance test is used in some of the clinics. However, there is still some question as to its accuracy. We must, and shall, continue our research in this direction.

There are available for clinical use two anti-coagulants, heparin and dicumarol. Neither of these are perfect; and, while their use is more or less universal, they are not what one might call popular therapeutic agents. What we must have is a safer anticoagulant. By the term, safer, one predicates an anti-coagulant that the patient may take similarly, let us say, as he takes insulin.

Some test must be devised that the patient can do each morning in his home, the same as a diabetic tests his own urine. This test must accurately and easily determine the coagulating power of the blood. It must have a universal technique, and a universal interpretation. The safe anti-coagulant must have a non-toxic an-

tidote which the patient may take himself, and not require extensive laboratory procedure before and after its use.

Our present anti-coagulants have a very definite place in the practice of medicine today. They are a distinct advance. They are, and should be used; but the difficulty in administration of heparin and the laboratory control required in dicumarol therapy mitigates the universal use which they should have, at least as a prophylactic measure.

In large institutions where this type of therapy is being employed daily, it is entirely feasible to have what might be called an anti-coagulant team that supervises this therapy throughout the whole institution.

This is fine, but how about the practitioner in our section of the country, whose patients are often great distances apart? His difficulty in handling this type of therapy is readily appreciated by all of us. Research must provide us with a more adequate anti-coagulant substance.

Research on this controversial subject must be accelerated. It is granted that in the past 15 years a great deal of progress has been made, but the progress, while great, is not wholly adequate. We must determine which patients have a predilection for venous thrombosis, and we must devise a more adequate drug for use in anti-coagulant therapy. Until we do this, we will not have solved this problem, because the problem can only be solved by prophylaxis.

Thrombosis And Embolism

Although a great deal has been written on the subject of thrombophlebitis, bland thrombosis or phlebothrombosis, and pulmonary embolism in the past few years, there is still need for organizing the facts available and for constant vigilance in watching for the physical signs that **usually** appear when thrombosis or pulmonary embolism occur. Trauma, either surgical or from external injury, cardiac impairment, cancer, inadequate correction of blood or nutritional disorders as preparation for surgery, and advancing years, are all predisposing factors to be borne in mind. Prophylactic measures, such as bed exercises, early ambulation, proper preparation for surgery, and avoidance of trauma to tissues and vessels during surgery are all important. Anticoagulant therapy preoperatively is advocated by some for the type of patient who seems especially liable to incur a thrombus, but as yet there is no general acceptance of such a procedure.

Zimmerman [1] and his associates at Michael Reese Hospital in Chicago, surveyed the clinical and pathological records of 9,980 patients who died over a period of 16 years, with reference to pulmonary embolism and antecedent vein disease. Autopsy records were available for 5,588, or 56 per cent of these. Pulmonary emboli were divided into three classes:

(1) The largest group, small emboli which were entirely incidental and obviously played no part in causing death. These usually occurred in patients with heart disease, pneumonia, cancer or other diseases.

(2) Larger emboli, with infarctions, where it was felt that the emboli might have contributed to the patient's death;

(3) Fatal emboli, where death was due directly to the embolus.

Three hundred and forty-five cases of pulmonary embolism were found, 166 of which were listed as purely incidental, 123 as contributory, and 56 as large, fatal emboli, an incidence of 1.0 per cent of all the autopsies. Fifty-three of the 56 fatal emboli came from bland thrombi and three from areas of thrombophlebitis. This bears out the accepted fact that the bland thrombus or phlebothrombosis, is the unattached, dangerous thrombus, while in thrombophlebitis the thrombus is firmly attached to the vein wall and has little tendency to loosen. However, a soft, red thrombus may develop in an inflamed vein and occasionally break off.

This is what occurred in the three cases of thrombophlebitis. The incidental emboli usually came from the heart and occurred most frequently in medical cases, whereas the fatal ones almost always had their source in the large veins of the lower extremities and were found chiefly in surgical cases. Forty-three fatal emboli were found in patients who had undergone major surgery, in a total number of 152,371 major operations. Based on the autopsy per centage of 56, it could thus be estimated that embolism was the primary cause of death in 0.05 per cent of patients undergoing major surgery, or an incidence of one in 2,000. From this estimate it would appear that fatal pulmonary emboli are much less common than recent statistics would have us believe.

Nevertheless, there should be no slackening of vigilance in looking for signs of vein diseases, or in prophylactic efforts, or in treatment once the presence of thrombosis or thrombophlebitis is established. These symptoms and signs are well known, but to arrange them in their order of frequency is instructive. Felder [2] studied 92 cases representing venous disease in 105 extremities and found them to occur as follows:

(1) Swelling of the extremity occurred in 88.5 per cent, but was sometimes only discernible by measurement of the calf.

(2) Tenderness in the calf muscles, especially to deep pressure, was next most frequent, appearing in 75 per cent.

(3) Heat—53 per cent.

(4) Pain or tightness of the calf or thigh muscles when at rest, 53 per cent.

(5) Homans' sign (pain in the calf on passive dorsiflexion of the foot) 49.5 per cent. Color changes or dilated superficial veins were found infrequently.

Treatment of the patient with a thrombosed extremity has been a highly controversial subject, but with the better knowledge of pathologic processes, the advent of the anticoagulant agents dicumarol and heparin, and the prompt ligation of the common femoral vein when this is necessary, morbidity and mortality from this disease should become steadily less. At present the judicious use of chemotherapy, antibiotics and the anticoagulants) where adequate laboratory control is available) are indicated for acute thrombophlebitis, while in phlebothrombosis, often asymptomatic, ligation of the common femoral vein at the level of the superfician femoral, is

required. Some recommend bilateral ligation, but this too is still a matter of controversy.—By E. A. RYGH, M.D., Santa Rita, N. M., Hospital.

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2—Felder, Davitt, A., M.D., Surgery, Gynecology and Obstetrics—1949, 88:337-350.

Southwestern Medical Conference Nov. 9-12 In Albuquerque, N. M.

Plans are developing nicely for the annual conference of the Southwestern Medical Association, which will be combined this year with the meeting of the New Mexico Division of the American Cancer Society in the Hilton Hotel in Albuquerque, Nov. 9, 10, 11 and 12.

Members and other physicians who expect to attend are urged to make reservations well in advance by writing to:

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Among the impressive list of speakers on a wide variety of timely scientific subjects will be:

(1) **E. W. Pernokis, M.D.**, Associate Professor of Medicine, University of Illinois—Anemias and Leukemia.

(2) **Elmer Belt, M.D.**, Director of Belt Urologic Group, Los Angeles, California—Ureteral Intestinal Anastomosis; Urology for the General Practitioner.

(3) **Herbert Willy Meyer, M.B.**, Professor of Clinical Surgery, Post-Graduate Medical School, New York University—Cancer of the Breast; Diaphragmatic Hernia; Perforation of the G-I Tract.

(4) **Donald M. Pillsbury, M.D.**, Professor of Dermatology and Syphilology, University of Pennsylvania—Malignant Skin Lesions; Dermatology As Applied to the General Practitioner.

(5) **Allan Butler, M.D.**, Associate Professor of Pediatrics, Harvard University—Malignancies in Childhood; Fever of Undetermined Origin.

(6) **Herbert F. Traut, M.D.**, Professor of Obstetrics and Gynecology, University of California Medical School—Use of Vaginal Smear in General Gynecologic Diagnosis; Bleeding in the Third Stage of Labor.

(7) **Otto C. Brantigan, M.D.**, Professor of Clinical Surgery and Surgical Anatomy, University of Maryland, Chief of Thoracentesis Surgery, University of Baltimore; Chief Surgeon, Baltimore City Hospital—Carcinoma of Lung; Surgical Treatment of Peptic Ulcers.

(8) **E. T. Bell, M.D.**, Professor of Pathology, University of Minnesota—Experimental Production of Carcinoma.

(9) **William Rettberg**, Associate Professor of Medicine, University of Colorado School of Medicine—Present Status of Antibiotics.

(10) **William Boyd**, Professor of Pathology, University of Toronto, Canada—Subject to be announced.

Upon completion of plans, further announcements will be given.

—By H. J. BECK, M.D., Albuquerque, Secretary Southwestern Medical Association Conference.

Dr. J. Richard Fuchlow

Dr. J. Richard Fuchlow, 45, El Paso radiologist who died suddenly in his home on the night of July 21, will be greatly missed by his fellow physicians of the Southwest.



DR .FUCHLOW

Dr. Fuchlow won the affection of both patients and members of the profession for the intense and sympathetic interest he took in each case with which he was associated. He was particularly active in work of the El Paso County Medical Society's Tumor Clinic, the El Paso Tuberculosis Association and William Beaumont General Hospital.

As head of the Society's committee in charge of the Tumor Clinic, he was in regular attendance at the Clinic's weekly meetings, where any doctor can bring a case for discussion of diagnosis and proper treatment. He worked diligently to make the Clinic's X-Ray filing system as complete as possible. Frequently he presented to the Clinic unusual cases from William Beaumont General Hospital, where he was a consultant. He was always interested in bringing physicians of national importance to speak before the Clinic and County Medical Society meetings. On many occasions he spoke over the radio in the drive for funds to fight cancer.

Glenn E. Camp, president of the El Paso Tuberculosis Association, of which Dr. Fuchlow was third vice-president, wrote, "The Association suffered an irreplaceable loss with the sudden death of Dr. Fuchlow. He worked tirelessly and without thought of compensation in helping us carry on our extensive X-Ray program, but more valuable still were his friendship and optimism and his wise counsel on the many problems that faced us."

A native of Pennsylvania, Dr. Fuchlow received his Bachelor of Medicine and Bachelor of Science degrees at St. Thomas College in St. Paul, Minn., and his Doctorate in Medicine at the University of Minnesota. He served for three years in the Army Medical Corps at Fort Riley, Kan., and then did graduate work at Ventura, Calif., and Memphis, Tenn. For five years he practiced medicine in Rapid City, S. D., where he was in charge of radiology at the Sisters of St. John's Hospital and the General Hospital. He was also in charge of radiology in the Sisters' Hospital in Deadwood, S. D., during this period.

Dr. Fuchlow came to El Paso in 1944. He was a member of the Radiological Society of North America, the American College of Radiology, the Rocky Mountain Radiological Society, the State Medical Association of Texas, and a member of the consulting staff at Hotel Dieu in El Paso.

He is survived by his widow; a daughter, Anne, and two sons, Richard and William, all of El Paso.

VENOUS THROMBOSIS AND PULMONARY EMBOLISM, THE CAUSES, PREVENTION AND TREATMENT

ROBERT R. LINTON, M.D.
Boston, Massachusetts

(From the Depts. of Surgery of the Massachusetts General Hospital and the Harvard Medical School)

The subject of thromboembolism is of interest to all practicing physicians and surgeons, but one which creates today more controversy than almost any other in the field of medicine and surgery. There are two schools of thought in regard to the treatment of this disease, but it is not my intention to convince you of either one or the other. I merely wish to present the facts as we have gathered them at the Massachusetts General Hospital over the past ten or more years.

Irrespective of what branch of medicine or surgery one is in, we have all witnessed the sudden demise of a patient from a massive pulmonary embolus, who was making apparently a very satisfactory convalescence either from a surgical operation, a normal pregnancy, a fracture of the leg, or trauma to an extremity. It is this condition which we are primarily interested in preventing, since so many times the patients would have been perfectly well if they had survived.



ROBERT R. LINTON, M.D.

Assistant Clinical Professor of Surgery, Harvard University Medical School; Senior Visiting Surgeon, Massachusetts General Hospital; Chief of the Peripheral Vascular Clinic, Massachusetts General Hospital.

TERMINOLOGY

There is a great deal in the medical literature about the terminology in regard to this disease. Ochsner [11] has popularized the term "phlebothrombosis" to designate the type of venous thrombosis which is more apt to result in pulmonary embolism, because the clot for the most part is unattached to the vein wall. (Fig. 1) Homans [9] has called this type "bland" venous thrombosis, whereas I prefer to call it "silent" venous thrombosis, because there is so little objective or subjective evidence that it exists until pulmonary embolism, either minor or fatal, occurs. The other type is called thrombophlebitis, because of the associated pain and tenderness over the course of the involved vein, the result of a sterile inflammatory process secondary to the thrombosis. The clinical picture is that of a large swollen extremity, the typical so-called phlegmasia alba dolens. The thrombus for the most part is adherent to the vein wall. (Fig. 1) It is my opinion that these two types of venous thrombosis are the same disease but represent different stages of it. It is true that the silent type is more apt to result in fatal pulmonary embolism, because the thrombus for the most part is unattached to the vein wall. Fortunately for many patients, however, this type of thrombosis may result in a typical phlegmasia alba dolens or thrombophlebitis without producing massive pulmonary embolism, resulting in the typically swollen leg of thrombophlebitis. (Fig. 1) That this may occur is borne out by the fact that not infrequently the patient, who has had no symptoms in the lower extremity until he gets out of bed, suddenly while walking experiences severe pain in one of his thighs and within a few hours the entire leg becomes discolored and swollen to the groin. Immediate femoral vein exploration with thrombectomy in such a case adds credence to this theory, since if the operation is performed within twenty-four or forty-eight hours after the leg becomes swollen and tender it will be found that the thrombus will be unattached and can readily be removed, whereas if the operation is postponed four to five days thrombectomy will be almost impossible because of the adherence of the clot. Although pulmonary embolism is less common in this stage of thrombophlebitis, it should not be forgotten that even fatal embolism may occur because of dislodgement of a propagated unattached thrombus in the iliac veins. For this reason, if for no other, femoral vein interruption with thrombectomy is the method of choice if the case is seen within forty-eight hours of the time the leg becomes swollen.

INCIDENCE

Thrombophlebitis, phlebothrombosis or venous thrombosis, whichever term is preferred, is usually considered to be a disease which affects primarily the surgical patient. This may be because surgeons have written so much about it in recent years, but this is not true apparently, since in our hospital a ten-year analysis of 45,000 patients admitted to the medical service revealed an incidence of thromboembolic disease of 0.6%, whereas in 98,000 admitted to the surgical service, the incidence was 0.24%, according to Carlotti et al [5]. These figures demonstrate that medical patients are more prone to develop the disease than the surgical patients.

We have been criticised in our hospital because we have reported so many cases of thromboembolic disease. There are a number of reasons I believe for this, and one is the increasing age of the patients admitted to the surgical service. Their mean age has been found to have increased from 36 to 40 years from 1930 to 1945, and furthermore more patients are seen now in the fifth, sixth and seventh decades of life, the ages when thrombosis and embolism are most common. Another reason for this high incidence in our hospital is that it is primarily a consulting hospital. We serve the local community to a certain extent, but most of the patients come from a considerable distance, referred because they need major surgical procedures which cannot be performed in the smaller community hospitals. Many of them are for extensive malignant disease and require operative procedures which were almost unheard of fifteen years

This paper was presented before the International Post-Graduate Medical Assembly, San Antonio, Texas, January, 1949.

ago. Both of these factors, it is believed, predispose to thromboembolism.

PROPHYLAXIS

Any discussion of thromboembolic disease is not complete without speaking of the prophylaxis. In order to understand this phase of the subject, one should fully realize which patients are most apt to develop it. An analysis of 367 patients with thromboembolic disease on the surgical services at the Massachusetts General Hospital revealed that 82 per cent were forty years of age or older. The same was found true on the medical service, as in a series of 273 medical patients with thromboembolic disease 87 per cent of them also were forty years of age or older.

(1) Anticoagulants

The use of the anticoagulant, dicumarol, deserves consideration in the prophylaxis of thromboembolism in surgical patients. It was used in 223 patients between forty and sixty years of age undergoing major surgical procedures at the Massachusetts General Hospital and omitted in a comparable control series. In this group nine patients developed evidence of deep venous thrombosis or pulmonary embolism, an incidence of four per cent. The control series of patients in the same age group undergoing similar operative procedures were not treated with it. In this group 45 instances of thromboembolism occurred, an incidence of approximately 20 per cent. These statistics indicate the value of the drug in reducing postoperative thromboembolic disease. The dosage of dicumarol used in these patients was relatively small, since the initial dose was 200 mg. given on the first postoperative day and if no elevation in the prothrombin time occurred in 48 hours, another 100 mg. was administered. Despite this small amount of the drug given prophylactically to 799 surgical patients, postoperative bleeding occurred in 22, or 2.7 per cent of the cases. (Table I). In 17 the bleeding was minor and in three it was major in amount, necessitating blood transfusions to control it, and in two it contributed to the patients' deaths. These statistics indicate that the drug is not without its dangers and furthermore it should not be administered unless there are adequate laboratory facilities for accurate prothrombin time determinations. Thromboembolism developed in 30 patients, or 4 per cent of this series of 799 treated with dicumarol, 16 had venous thrombosis and 14 nonfatal pulmonary embolisms. Bilateral femoral vein interruptions were performed in these 30 cases. It is of extreme significance that no deaths from massive embolism occurred in the entire group utilizing the combined prophylactic measures of dicumarol and femoral vein interruption in those cases that developed signs of venous thrombosis or minor pulmonary embolism.

(2) Prophylactic Superficial Femoral Vein Interruptions

Another method of prophylaxis that has been used in our hospital has been bilateral superficial femoral vein interruption before signs of thromboembolic disease have developed. The procedure was performed immediately before or after the major operation and in some cases at the same time. The majority of these patients were 65 years of age or over and in whom it was considered dicumarol was contraindicated. The procedure was performed in 871 patients. Venous thrombosis developed in 45, or 4 per cent of them. There were four deaths from massive pulmonary embolism, an incidence of approximately 0.5 per cent. In a comparable series of 871 patients who did not receive any specific prophy-

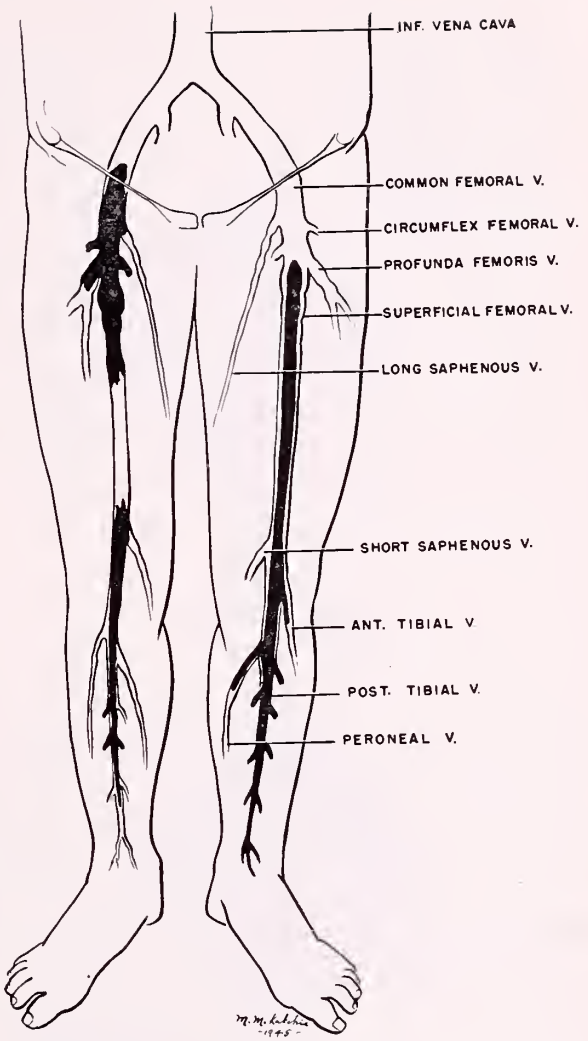


FIGURE 1. An artist's drawing of the deep veins of the lower extremities demonstrating phlebothrombosis and femoro-iliac thrombophlebitis. In the left leg is shown a long nonadherent thrombus in the femoral vein which has propagated from an area of thrombophlebitis in the veins of the calf... This is the so-called "silent" venous thrombosis, with few signs. The clot of this type may break off to produce fatal pulmonary embolism or as is shown in the right leg, the detached portion of the thrombus may lodge in the common femoral vein, occluding the collateral venous channels in this region to produce the classical picture of thrombophlebitis or phlegmasia alba dolens... Thrombectomy and common femoral vein interruption may be readily accomplished if carried out within 48 hours of the occurrence of this occluding thrombus.

(Courtesy Mason, Robert L., and Zintel, H. A.: Preoperative and Postoperative Treatment. By permission of W. B. Saunders Company, publishers, Philadelphia.)

lactic treatment, 102, or 12 per cent, developed venous thrombosis and 37, or 4 per cent, succumbed to massive embolism. It is obvious that the protection from this procedure is not one hundred per cent, nevertheless, these statistics indicate the value of prophylactic bilateral superficial femoral vein interruption in this older age group in whom postoperative thromboembolism is so frequently encountered. Because it did not prevent embolism in all the cases, however, it is planned to extend the use of dicumarol as a prophylactic measure in the older group of patients. Sufficient time to obtain a large series of patients so treated will be necessary to determine whether or not the hemorrhagic complications of the drug in this age group will outweigh its advantages. The fatalities from embolism following prophylactic femoral vein interruption have occurred for the most part in patients who have been bed ridden for long periods of time after the procedure was performed. For this reason if long continued bed rest becomes necessary because of unforeseen complications, it is advisable to administer dicumarol for its additional protection. If a patient can be made ambulatory within a short time after interrupting the femoral veins, this precaution is probably unnecessary.

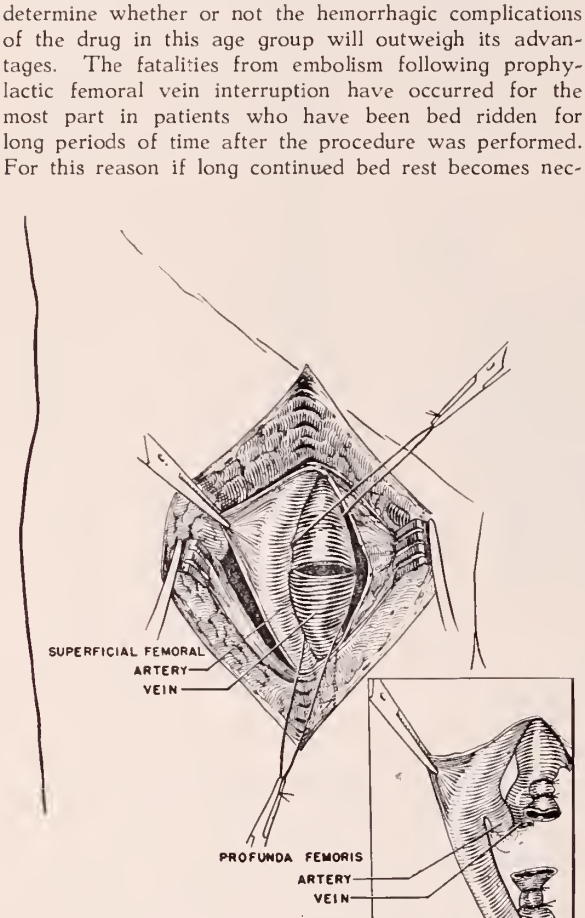


FIGURE II. Interruption of the superficial femoral vein. An artist's drawing to show the exposure of the right superficial femoral vein, using a vertical incision, the upper end commencing at the groin crease. The dilatation of the vein localizes the junction of the superficial and deep femoral veins. The femoral artery is retracted lateralward. The incision in the vein is indicated, and should always be transverse. The inset shows the divided superficial femoral vein with both ends doubly ligated. The ligatures on the proximal end should be placed as close to the deep femoral vein as possible, so that a blind segment of vein is not formed in which a secondary thrombus may develop and from which a pulmonary embolus might occur.

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(3) Early Ambulation

Early ambulation is one of the most important prophylactic measures, especially for patients who can get out of bed within 24 to 48 hours after an operation. If this method is used it is essential that when the patient is up he must be walking and not sitting in a chair, because the latter tends to favor venous thrombosis. Failure to follow this rule may, in part at least, explain the increased incidence of thromboembolic disease reported by Blodgett et al [4] in patients in whom early ambulation was practiced. My own rule is that early ambulation means that the patient either lies down or walks for the first five or six postoperative days. An additional advantage of this routine is that muscles do not weaken from disuse so that patients may be discharged earlier from the hospital. It should be pointed out, however, that this method will not prevent venous thrombosis in all cases, so that frequent examinations of the lower extremities should not be neglected.

THERAPEUSIS

(1) Anticoagulants

Heparin was the first effective anticoagulant recommended for the treatment of thromboembolic disease either before or after pulmonary embolism had occurred. Its chief disadvantages are the difficulty of administration and the expense of the drug. The chief advantages are that a prolongation in the coagulation of the blood can be obtained almost immediately after administration and likewise the effect of it, if it must be discontinued, disappears in a few hours. If a more rapid neutralization is demanded, protamine may be given, since this almost immediately counteracts the drug. If heparin is administered, the blood coagulation time, utilizing the multiple tube method, should be determined and the clotting time maintained somewhere between 20 and 30 minutes. The drug is not without its dangers in the surgical patient following operation even when the blood coagulation time is kept within this time. I have had one death from postoperative hemorrhage following a lumbar sympathectomy. **Dicumarol** is the anticoagulant which is in vogue at the present time. The chief advantages of it are the ease of administration, unless the patient cannot be fed by mouth, and its cheapness. The disadvantages are the delay in action, as it requires 48 hours as a rule to take effect; second, the difficulty of counteracting it in case of overdosage, and third, the difficulty in the smaller hospitals especially of maintaining satisfactory laboratory facilities to determine accurately the prothrombin time.

Numerous statistics have been published indicating the value of these drugs in many cases. From each clinic (Table II), however, a varying number of fatal pulmonary emboli are reported so that this method in itself does not afford protection in all cases. The failure of heparin to protect all patients with recognizable deep venous thrombosis from fatal pulmonary embolism was demonstrated to me in 1940 by the following case: A man, aged 41 years, developed typical postoperative femoro-iliac venous thrombosis following a spinal fu-

sion. Adequate anticoagulant therapy was administered by a continuous intravenous drip of heparin solution for a period of 15 days. Massive pulmonary embolism with sudden death occurred on the 16th day, just 24 hours after the drug had been discontinued. Postmortem examination in this patient revealed that the fatal embolism was a portion of the thrombus from the iliac vein on the same side that the thrombophlebitis was recognized. One might be criticized for discontinuing the anticoagulant before this patient was ambulatory and that the fatal embolus was a clot which had formed following the cessation of heparin administration. The postmortem examination revealed, however, that the fatal embolus was an old and partially organized thrombus which antedated the discontinuance of the anticoagulant by many days. It is believed that if bilateral femoral vein interruption with thrombectomy had been performed instead of relying on the anticoagulant heparin, this patient would still be alive. Based on this case and similar ones subsequently observed, it is believed that once the diagnosis of venous thrombosis with or without a warning minor pulmonary embolus has been established bilateral femoral vein interruption is recommended as the best method of treatment. If desired the anticoagulant dicumarol may be given for additional protection.

(2) Sympathetic Nerve Block

The paravertebral injection of the lumbar sympathetic nerves with procaine solution, as advocated by Ochsner [12], is of chief value in patients with the obstructing type of iliofemoral thrombosis to relieve pain and edema. The chief drawback to this method of therapy is that it does not protect the patients from pulmonary embolism, either minor or fatal.

(3) Venous Interruption

Homans [10] in 1934 first reported the procedure of femoral vein interruption for the treatment of deep venous thrombosis of the lower extremity with pulmonary embolism. Since then it has been advocated in many clinics, but the largest series of patients subjected to this method of therapy has been reported by Allen et al [1] from the Massachusetts General Hospital. The first patient so treated in this clinic was in 1937. During the 12 year period from 1937 to 1948 inclusive, 1450 patients have had one or both femoral veins interrupted for the therapeusis of thromboembolic disease and 1,041 for prophylaxis, a total of 2,491 patients. These figures indicate the tremendous effort expended in an attempt to reduce the morbidity and mortality rate of this disease. In the beginning if signs of venous thrombosis were present only in one extremity, the venous interruption was performed only in it. However, with further experience in this and other clinics, it became apparent that bilateral interruption should be done even though the diagnosis of thrombosis could only be made in one extremity. This is chiefly because the disease is so treacherous that fatal emboli have occurred from the supposedly normal, unaffected leg, so that during the past five years bilateral interruptions have been performed almost routinely at the same operative procedure.

The indications for this method of therapy are threefold. The first and perhaps the most important is that it should be performed on any patient who has had a minor or nonlethal pulmonary embolus. The development of sudden chest pain followed later by the characteristic findings of pleural friction rub with pain on breathing are classical signs of this condition. The occurrence of hemoptysis in addition is practically pathognomic of pulmonary infarction. The diagnosis may be further substantiated by anteroposterior and lateral roentgenograms of the chest. Since the majority of pulmonary emboli, as high as 95 per cent, according to some authorities [8], arise from the deep veins of the leg, it is our opinion that if the diagnosis of a minor pulmonary embolism or infarction is made, bilateral femoral vein interruption should be performed even **if no signs of venous thrombosis in the extremities are detectable.** In support of this opinion Welch and Faxon [14] reported a mortality rate from massive pulmonary embolism of approximately 25 per cent in the group of patients who had had previous small or warning pulmonary emboli. The second indication for femoral vein interruption is the development of signs of venous thrombosis in the deep veins of the lower extremities. The morbidity of thromboembolic disease can be greatly reduced

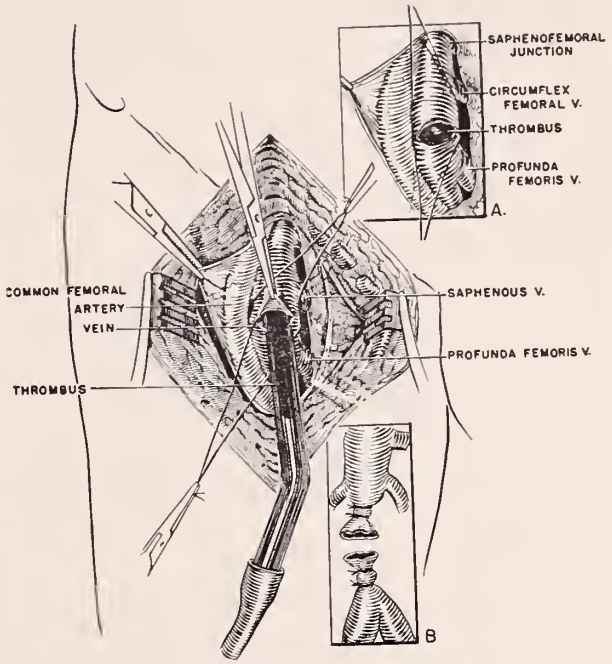


FIGURE III. Interruption of the common femoral vein with thrombectomy. An artist's drawing to show the exposure of the right common femoral vein. The upper end of the incision should be 2 cm. above the groin crease. The femoral artery is retracted laterally. Two untied ligatures have been placed around the vein to control the bleeding after thrombectomy. The thrombus is removed by aspiration through a glass cannula. The proximal segment is always aspirated first. Inset A, shows the thrombus protruding through the transverse incision in the vein. Inset B, shows the completely divided vein with both doubly ligated with nonabsorbable ligatures. The division is above the junction of the superficial and femoral veins.

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if the diagnosis can be made early and the femoral veins interrupted. If the thrombus has extended to involve the femoro-iliac veins, resulting in edema of the extremity up to the groin, the procedure should be performed with thrombectomy providing the patient is seen within forty-eight hours of the development of the thigh swelling. Operation after the elapse of a longer period, three days or more, is very unsatisfactory because the thrombus becomes so adherent to the vein wall that it cannot all be removed, especially the proximal portion which will result in pulmonary embolism if it becomes dislodged. The third indication for femoral vein interruption is believed to be the development of a concomitant rise in the temperature, pulse and respiration in a patient who has had a normal chart and in whom no other cause can be found to explain these findings. It is believed that the elevation in these three vital signs frequently indicate the lodgment of a small pulmonary embolus so that bilateral femoral vein interruption is justifiable, irrespective of what the extremities show on physical examination. When it is necessary to perform a thrombectomy, supplementary treatment with dicumarol is recommended to reduce the formation of a secondary thrombus both proximal and distal to the site of interruption. This seems to be a worth while precautionary measure, as femoral vein interruption is not a perfect operation to prevent pulmonary embolism, since a secondary thrombus may form in the proximal end of this vessel which may be large enough, if it becomes dislodged, to produce sudden death from massive embolism. This is especially true when a thrombus has been removed, since another may readily form because of the intimal damage secondary to the initial thrombosis and also the mechanical procedure of removing it.

(4) Technic of Femoral Vein Interruption

The operation of femoral vein interruption is regarded by many as a simple surgical procedure. This is perhaps due to the fact that it is performed frequently under local procaine infiltration anesthesia. It should be stressed, however, that **the operation should be performed only by a surgeon experienced in the surgery of major blood vessels.** The average surgeon, before attempting the procedure, should make a special study of the anatomy of the femoral artery and vein with their tributaries by careful dissections of the femoral triangle, preferably in the postmortem room. The fundamental vascular surgical principle that an incision to expose a major blood vessel lie directly over and parallel to it, must be rigidly followed, since it gives the most adequate exposure—something that is extremely necessary if the femoral vein is accidentally wounded. An oblique incision with its limited exposure of the femoral blood vessels was used in three patients who have been seen that lost extremities due to inadvertent injury to the femoral artery. These were performed by surgeons outside our hospital. Contrasted to these calamities, we have performed femoral vein interruptions on 2,491 patients up to January 1, 1949, and in the majority the procedure has been done in both extremities, making a total of approximately 4,000 interruptions of a femoral vein without injury to the arterial blood supply of the limb. The vertical type of incision parallel and directly over the femoral vessels has been utilized in all cases. The poorer cosmetic appearance of the scar, as compared to the oblique incision which parallels the cleavage planes of the skin, is far outweighed by the more adequate exposure, so that if hemorrhage is encountered from inadvertent wounding of the femoral vein, additional exposure to control it may readily be obtained both proximal and distal to the injury. Due to the fragile nature of major arteries, especially in individuals beyond middle life, the femoral artery should not be isolated and retracted with rubber tubing, tape or retractors. Gangrene necessitating amputation of the leg has been observed in one patient secondary to arterial thrombosis due to fracture of the arterial wall from retraction of the vessel with a rubber catheter.

The incision should extend from the crease in the groin distalward about 8 to 10 cm., the length depending a little on the degree of obesity of the patient. The inguinal lymph nodes are usually encountered and may be retracted medialward or lateralward. The fascia of Scarpa's triangle is then recognized. It is incised to expose the femoral blood vessels which are encased in a vascular sheath. The femoral vein lies medialward and somewhat posterior to the artery. Retraction of the artery is obtained by placing the end of the retractor in close proximity to it but not on it, and thus the artery is usually drawn lateralward to expose the femoral vein. (Fig. 2) If a thrombus is found within the femoral vein, the interruption of this blood vessel should be proximal to the profunda femoris branch and distal to the saphenofemoral junction. (Fig. 3) An incision is made transversely in the vein wall and the proximal end of the vein aspirated utilizing a glass tube until free bleeding is obtained. The distal end is also aspirated, although this is not so imperative. The advantage of the latter step is that collateral venous channels may be unplugged by removing the thrombus, and thus the postthrombotic edema may be greatly reduced. As a rule, if the common femoral vein is interrupted, it is necessary

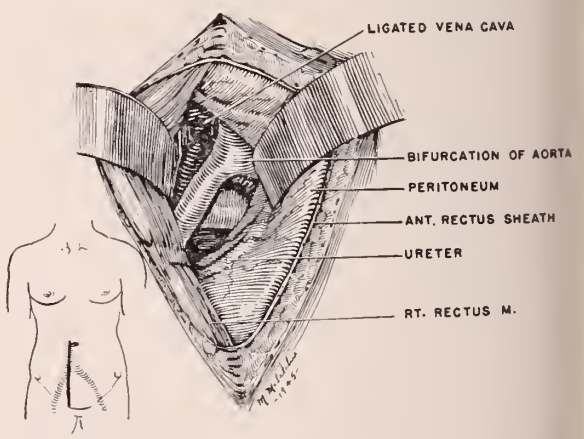


FIGURE IV. Interruption of the inferior vena cava. An artist's drawing to show the extraperitoneal exposure and ligation in continuity of the inferior vena cava, using a right paramedian incision. The rectus muscle is retracted lateralward and the ureter, peritoneum and its contents medialward. The incision extends from the pubis to about 5 centimeters above the umbilicus. For ligation, we use two nonabsorbable ligatures of silk or cotton.

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to separately ligate and divide a tributary of the common femoral vein, usually the lateral femoral circumflex vein. (Fig. 3) This is necessary in order to get sufficient length of vein to safely ligate and divide the common femoral vein. Some surgeons prefer to ligate it in continuity, but it is believed that the procedure of choice is a ligation and division. Both ends of the common femoral vein should be doubly ligated, first with a heavy silk or cotton ligature and distal to it in each end of the vein, a transfixion suture of the same material.

The common femoral vein should never under any circumstances be interrupted proximal to the saphenofemoral junction. This is especially true in elderly people who have poor arterial circulation. One patient has been observed who lost his leg following interruption at this level because there was insufficient venous collateral to permit blood to return from the leg to the trunk. In our clinic the majority of interruptions have been of the superficial vein just distal to the profunda femoris. Due to the fact that we have had a certain number of fatal embolisms arising from thrombi originating in the profunda femoris branch, it is my rule at the present time to interrupt the common femoral veins (1) in those patients in whom thrombi are found in the femoral vein, (2) in cardiac patients and others who must stay in bed for long periods of time even though no thrombi are found. The superficial femoral vein, on the other hand, is interrupted in young people in whom signs of venous thrombosis are limited to the lower leg and in most instances of prophylactic femoral vein interruption where the patient does not have a long period of bed rest following the operative procedure.

(5) Inferior Vena Cava Interruption

Venous interruption at a higher level is necessary in some patients. The most effective level to perform this is of the inferior vena cava distal to the renal veins and just proximal to the junction of the common iliac veins. It should not be performed in preference to femoral vein interruption, since it carries a much higher mortality rate, as shown by the statistics of Thebaut and Ward [13]. It is a major operative procedure requiring general anesthesia in contradistinction to femoral vein interruptions which may be done under local procaine anesthesia. The chief indications for interrupting the inferior vena cava are (1) septic pulmonary emboli arising from a septic thrombophlebitic process in the pelvis, (2) in patients who, following interruption of the femoral veins and additional dicumarol therapy, still have repeated pulmonary embolic episodes. In our clinic this procedure has been done only in a few patients. Compared to approximately 2,500 patients who have had femoral vein interruptions, we have only interrupted the inferior vena cava in approximately 20 patients. It is a life saving procedure, however, and certainly should be utilized in the rare case where femoral vein interruption and the anticoagulant therapy are not sufficient.

The most satisfactory method to expose the inferior vena cava is obtained by utilizing a right paramedian abdominal incision, extending from the pubis to about two inches above the umbilicus. (Fig. 4) The rectus muscle is retracted lateralward and the peritoneum and its contents are rolled up out of the iliac fossa. The bifurcation of the inferior vena cava is almost at the level of the umbilicus, so adequate exposure is essential in the cephalad direction. Since the inferior vena cava is such a large blood vessel and it would necessitate isolating a considerable length of it to safely ligate and divide it, ligation in continuity has been resorted to in the cases done in our clinic. The interruption has usually been with No. 0 braided silk, using two ligatures about one centimeter apart. In patients with septic lower abdominal incisions from previous surgery, the vena cava may also be approached through the flank, using a kidney type of incision. This exposure is not quite as satisfactory as the anterior one, but in some cases must be used of necessity. No serious sequelae have been observed immediately following interruption of the inferior vena cava to the extremities. What the long term result will be, it is difficult to state. In two patients that I have operated on I have interrupted the femoral veins as well as the inferior vena cava without serious sequelae over periods of three and five years in these patients. Further time, however, is necessary in order to determine if chronic ulcerations and dermatitis are more apt to develop than after femoral vein interruption.

TABLE I.
COMPLICATIONS OF PROPHYLACTIC DICUMAROL IN 799 PATIENTS
Massachusetts General Hospital
1945-1948

	With Response	Without Response	? Response	Total
*Minor Bleeding	17	0	0	17
*Major Bleeding	3	0	0	3
**Phlebitis	6	6	4	16
**Infarct	9	0	5	14
Fatal Pulmonary Embolus	0	0	0	0
Deaths from Delayed Hem'rrh'ge	1	1	0	2

*—Requiring Vitamin K and Transfusions
**—Requiring Femoral Vein Interruption.

TABLE II.
MORTALITY FOLLOWING THERAPEUTIC MEASURES IN THROMBIC-EMBOLIC DISEASE

		Measures	No. of Cases	Deaths from Emb.	Mortality Rate
Ziliacus [15]	(1946)	Anticoagulants	576	3	0.52%
Bauer [3]	(1946)	"	209	3	1.4
Evans [7]	(1948)	"	127	3	2.4
E. V. Allen [2]	(1947)	"	572	1	0.17
Cumine [6]	(1948)	"	89	2	2.2
M. G. H.	(1949)	Fem. Vein Int.	1450	7	0.48

SUMMARY

An analysis of thromboembolic disease at the Massachusetts General Hospital treated by various means from 1937 to 1948 reveals that prophylactic dicumarol has been used in 799 patients with two deaths from hemorrhage related in part at least to the drug, a mortality rate of 0.25 per cent. Prophylactic superficial femoral vein interruption was utilized in 1,041 with five deaths, a mortality of 0.5 per cent. Therapeutic femoral vein interruption with thrombectomy where indicated was performed in 1,450 patients with seven deaths, a mortality rate of 0.8 per cent. From these statistics it will be seen that we do not have a method of preventing deaths in all patients, either by the present prophylactic

or therapeutic measures. The results in our clinic by femoral vein interruption correspond very favorably and possibly show some improvement over those clinics where the anticoagulants have been used exclusively. (Table II) It is obvious that further study and research are necessary. The ideal anticoagulant as yet has not been discovered and the answer may not lie entirely in this direction, since it seems possible that the degeneration of the venous wall and the intima, similar to that seen in arterial thrombosis, may be the chief etiological factor in many cases of venous thrombosis, especially in the aged. It is because of this fact, namely, that phlebosclerosis is almost as common as arteriosclerosis in the aged, that I feel femoral vein interruption, if properly performed, carries a lasting benefit that is not obtained from the use of the anticoagulants, which of necessity must give only temporary benefit while the drug is being administered. It is our opinion at the present time, however, that a combination of femoral vein interruption and the use of the anticoagulants will give the best results in many cases, and in some interruption of the inferior vena cava may be necessary in addition to protect the patient from massive pulmonary embolism. The anticoagulants in our opinion should be used primarily as a prophylactic procedure rather than as a therapeutic one.

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Albuquerque Medical News

On June 17 there was a meeting of representatives from the various hospitals, civic and county groups, and the New Mexico Department of Public Welfare to consider the critical hospital deficits which have been accruing in the Albuquerque area.

It appears that financial difficulties have been created largely by the loss sustained through caring for welfare cases for fees granted by government agencies, considerably below actual cost to the hospitals. Additional attrition results from caring for many accident cases for which payment is never made.

A committee was appointed further to study the situation which is particularly ominous for several reasons. Albuquerque, during the past few years, has been in a favored position financially because of the high rate of employment resultant from its government projects. Despite this, the hospitals have been operating with increasing deficits.

Since philanthropy can no longer be counted on to make up these losses because of increased taxation, and in the face of receding business activity at present, it appears that the governmental agencies which have asserted and even insisted on their responsibilities in these matters for purposes of taxation, should accept their responsibilities for purposes of service.

Meanwhile, it should give pause for thought to those proponents of the welfare state as to whether failure on the small scale of adequately caring for the indigent is a likely portent of success on the large scale of taking care of all of us.

Dr. R. W. Mendelson of Albuquerque, long regarded as one of the foremost internists in this area, and formerly vice-president of the Southwestern Medical Association, has retired from private practice to return to active service with the Army Air Force. He has just been assigned as surgeon to the 81st Fighter Wing at their new base at Kirtland Field in Albuquerque.

The U. S. Veterans Hospital in Albuquerque has had its resident staff replenished as part of training program under the jurisdiction of the University of Colorado Medical School. Plans for training physicians in the medical specialties utilize not only an excellently qualified full time staff, but also local private practitioners.

Not only members of the Veterans Hospital staff, but the medical profession in the area at large have benefited by the lecture program which has been formulated and integrated in part with the efforts of the New Mexico Clinical Society. Through the good offices of both these organizations, Albuquerque has been favored with such eminent lecturers as Dr. Isaac Starr, Dr. William Dock, Dr. Hans Selye, and others.

A chapter of the American Heart Association is in the process of being formed in New Mexico. Some units of this chapter are already functioning. An organizational meeting is being planned for September 8, in Albuquerque, at which time several directors from the central organization will meet with members in this area. All physicians interested in participating in the activities of this group are invited to direct their inquiries to this correspondent or Dr. H. L. January of Albuquerque. —ROBERT FRIEDENBERG, M.D., Albuquerque, N. M.

PROTHROMBIN AND DICUMAROL

By Rita L. Don, B.A., M.T. (ASCP)

It cannot be too strongly emphasized that the administration of Dicumarol must be based on the value for prothrombin in the blood. Any other program may lead to serious hemorrhage or to inadequate control of coagulation. Identical amounts may produce widely dissimilar effects on prothrombin when administered to different persons. Indeed, the prothrombin of the blood of the same person may be affected dissimilarly by the same amounts of Dicumarol given on one or more than one occasion. The drug requires daily determination of prothrombin levels, and accurate and consistent results are imperative if the patient is to be adequately treated.

I make a plea for the discontinuation of reporting prothrombin time. Since thromboplastins vary in potency, to bring about uniformity, every laboratory should report the prothrombin not in seconds but in percentage of normal. At the very least, reports should contain the prothrombin time for three critical values of prothrombin, 30 per cent, 20 per cent, and 10 per cent.

One may administer the drug adequately knowing only these figures; for clinical experience has indicated that intravascular thrombosis rarely occurs when the percentage prothrombin in the blood is less than 30, and bleeding rarely occurs when the percentage is 10 or more.

THE PROTHROMBIN TEST

One will find numerous methods for the determination of prothrombin, reviewed in the literature, all of which have many advantages. In our laboratory we have found that the one-stage methods are practical, consistent, and reliable, if the utmost care is taken in technique. This is one laboratory procedure where there is absolutely no room for error. All one-stage prothrombin tests today are based on the original method of Quick.

Regardless of the method used, each laboratory should determine its own dilution curve in order to report accurately in per cent of prothrombin. Variations in the strengths of the thromboplastin and other factors will make it impossible to read results from dilution curves that have been made in other laboratories. In the following outline of the method we followed closely the Link and Shapiro modification.

Reagents:

1.) M/10 Sodium Oxalate.

Dissolve 1.34 gm. of sodium oxalate in enough distilled water to make a total of 100 c.c.

2.) M/40 Calcium Chloride.

Dissolve 0.28 gm. of anhydrous calcium chloride in enough distilled water to make a total of 100 c.c.

3.) Thromboplastin Solution.

Difco Laboratories Inc. Bacto-thromboplastin is used in our laboratory. Thromboplastin of the same lot number possess similar activity. It is stored in a refrigerator at 4° C. When ready for use 0.15 gm. of thromboplastin is placed in a test tube containing 0.05 c.c. of M/10 sodium oxalate to which is added 2.5 c.c. of normal saline. After the test tube is thoroughly shaken to insure uniform distribution of particles, it is placed in a water bath maintained at 45° C. for exactly ten minutes. While in the water bath, the test tube is vigorously shaken for ten seconds every two minutes. It is important that the material be shaken regularly and consistently at the two-minute period, as the amount of agitation will change the prothrombin obtained.

At the end of the incubation period the thromboplastin extract is drawn through a cotton plug at the end of a pipette and used for testing. If the thromboplastin solution is not to be used immediately it should be kept in the refrigerator (4° C.) until the test is to be run. The thromboplastin solution should be prepared fresh each day.

Technique:

1.) Preparation of Blood Specimens.

Plasma for prothrombin determinations is obtained by mixing 4.5 c.c. of venous blood, taken with a dry syringe, with 0.5 c.c. of M/10 sodium oxalate. This is centrifuged at 1,500 r.p.m. for ten minutes. All determinations should be completed within an hour after the blood is drawn.

2.) Determination of Prothrombin Time.

All materials and solutions to be used in the performance of the test are placed in a water bath in a hot air oven at 37° C. for ten minutes. With the right hand place 0.1 c.c. of M/40 calcium chloride into a test tube in the rack in the water bath, add 0.1 c.c. of thromboplastin solution and mix, finally add 0.1 c.c. of plasma and at the same instant the stopwatch is started with the left hand. The prothrombin testing tube is picked

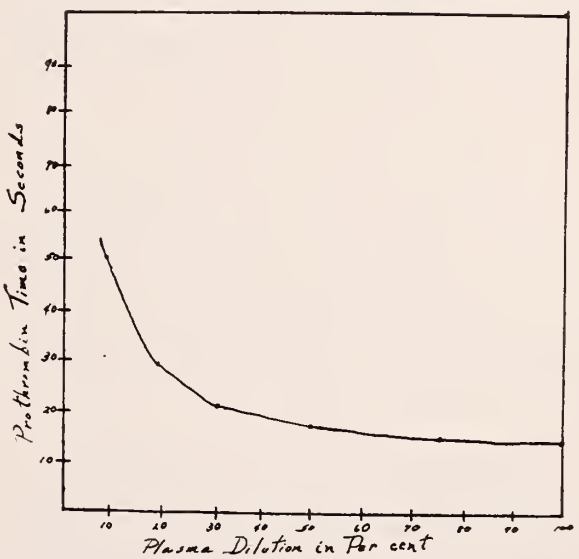


Fig. I. Normal Plasma Prothrombin Dilution Curve.

up with the right hand and tilted continuously while being held with its contents clearly visible yet barely submerged in the water bath. The instant the first strands of fribrin appear, the watch is stopped, and the prothrombin time recorded to the nearest tenth of a second. Determinations are made in duplicate and averaged.

3.) Preparation of Prothrombin Dilution Curve.

The plasma from five normal individuals is pooled.

Then the prothrombin time is determined on this pooled serum in the dilutions 100 per cent, 75 per cent, 50 per cent, 30 per cent, 20 per cent, and 10 per cent. The dilutions are made with normal saline. From these results a curve is plotted on graph paper as show in Fig. I. The prothrombin time of unknown plasma may now be interpreted in per cent of normal from this curve. For each new lot of thromboplastin a new curve must be made because of the variance in potency.

SUMMARY

1. The importance of determining prothrombin levels when Dicumarol is administered to a patient is stressed.

2. The prothrombin test as devised by Quick and modified by Link and Shapiro is reviewed in detail with certain precautions emphasized:

a.) The test should be performed with the utmost of accuracy.

b.) The blood should be drawn with a dry syringe. Hemolysis shortens the prothrombin time.

c.) The test should be run within an hour after the blood is withdrawn. The prothrombin activity deteriorates the longer the blood stands.

d.) The thromboplastin solution should be prepared fresh each day. If the solution is not to be used immediately it should be kept in the refrigerator (4° C.).

e.) The dried thromboplastin should be stored at 4° C.

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Southwest New Mexico Meeting

The Southwestern New Mexico Clinical Society meeting at the Veterans Administration Hospital, Fort Bayard, N. M., July 22, was addressed by Dr. John B. Grow, of Denver, Colo., on certain aspects of thoracic surgery, and by Dr. Rosenblatt of the hospital staff, who discussed the current status of streptomycin in the treatment of tuberculosis.—E. A. RYGH, M.D., Santa Rita, N. M.

Treatment of Tendinitis And Bursitis

"Roentgen therapy was the most favored conservative measure and was considered . . . to be satisfactory in cases of acute or chronic calcific or noncalcific tendinitis or bursitis. Sometimes symptoms rapidly subsided and calcium deposits disappeared. Results were best in acute cases or in chronic cases in which the deposits were soft, fuzzy and small, less notable in chronic cases or in acute cases with large, dense, discrete deposits. Roentgen therapy dilates capillaries, increases their permeability, leads to phagocytosis of fibrin and necrotic tissue. The effect is not a direct one on the deposits."—Hench, P. S., **et al, Ann. Int. Med.** 28:309, 1948.

New York Tumor Specialist To Address El Paso Groups

Dr. Norman L. Higginbotham, assistant director of medical education and director of the Bone Tumor Clinic Memorial Hospital, New York, and instructor in surgery at Cornell University Medical School and New York University, will be the guest of the Tumor Clinic of El Paso County Medical Society, Sept. 13.

Doctor Higginbotham will attend the meeting of the Tumor Clinic, 408 East Overland Street, El Paso, at 1 p. m. Sept. 13, for case presentation or bone tumors. That night at 8 o'clock, he will present a paper on "Malignant Bone Tumors—Some Practical Considerations", before a meeting of El Paso County Medical Society at 1301 Montana Street. All physicians are invited to attend both sessions.

Doctor Higginbotham is a diplomate of the American Board of Surgery and a member of numerous national and international medical societies. His works have been widely published in American medical literature.

Doctor Higginbotham is personally well known throughout the Southwest and Texas. As a colonel during World War II he was for four years chief of surgical service at Regional Hospital, Camp Swift, Texas; and he was commanding officer of the same hospital from Nov. 15, 1945, to Feb. 1, 1946.

There are numerous physicians in El Paso and the Southwest who served in Doctor Higginbotham's command and who will be present to greet and hear this distinguished physician Sept. 13 in El Paso.

Report Of The Committee For The Evaluation Of Anticoagulants In The Treatment Of Coronary Thrombosis With Myocardial Infarction

"On the basis of data compiled from 800 cases of coronary occlusion with myocardial infarction, it is concluded that:

"1. Patients treated with anticoagulant therapy in addition to the conventional forms of therapy experience a death rate and incidence of thromboembolic complications during the first six-week period following an attack which are markedly lower than those experienced by patients treated solely by conventional methods.

"2. Anticoagulant therapy should be used in all cases of coronary thrombosis with myocardial infarction unless a definite contraindication exists.

"3. In the absence of other hemorrhagic states, the hazards from hemorrhage due to anticoagulants are not sufficient to contraindicate their use in the treatment of coronary occlusion providing there are facilities for adequate laboratory and clinical control."—Wright, I. S., Marple, C. D., and Beck, D. F., **Am. Heart J.** 35:815, 1948.

Renal Infarction

"The most important single item in diagnosis of acute infarction of the kidney in complete, or almost complete, loss of function, almost irrespective of the degree of tissue involvement, in kidneys in which pyelography remains unchanged. Chronic infarction is recognizable in proportion to the caliceal atrophy which results from the infarct in its scar stage."—Regan, F. C., and Crabtree, E. G., **J. Urol.** 59:981, 1948.

SOME DIAGNOSTIC PROBLEMS OF CHRONIC PULMONARY DISEASES**

By H. Corwin Hinshaw, M.D., Rochester, Minn.

There has been an unprecedented upsurge of interest in the diagnosis and treatment of thoracic diseases during the past decade. This has been related to the solution of certain surgical problems which developed during the recent war and especially to the development of the antibiotics and to the perfection of photofluorographic methods of mass roentgenography.

Most physicians now in practice have witnessed the conquest of pneumococcal pneumonia and now see promise of an effective agent against some of the non-bacterial ("virus") pneumonias. Patients who would have died a physiologic (anoxic) death are now saved by efficient devices for administration of oxygen. Others who might have died as a result of the infection are saved by antibacterial and antiviral drugs.

The management of chronic infectious thoracic diseases such as pulmonary abscess, empyema, and bronchiectasis has changed utterly in recent years. Medical treatments now avert surgery more frequently, and when surgery is required, it is more safely and more effectively performed. Internists and surgeons have learned anew of their intimate interdependence upon each other and of their need for well-trained laboratorians and anesthetists.

INCREASE SEEN

Malignant pulmonary diseases, especially bronchiogenic carcinoma, are apparently increasing in incidence and in interest. It is now one of the most frequently encountered cancers in the male sex, and advances in surgical therapy offer a distinct ray of hope to the victim; a ray which may broaden to a beam within another decade or two.

Tuberculosis, that most significant of chronic infectious diseases of the human race, is confronted with new weapons of diagnostic and therapeutic power. Not only has the physician come into the possession of new methods of combatting tuberculosis, but he is ever becoming more adept in the use of older methods of diagnosis and treatment. Antibiotics effective against the tubercle bacillus combined with more discriminating use of collapse therapy and occasionally actual removal of diseased pulmonary tissue has regenerated a laggard field of medical endeavor.

The physician frequently is confronted with some evidence of thoracic disease and finds it difficult to determine what investigations are warranted. Therefore I have chosen to list some of the common situations which prompt the patient to seek medical advice because of suspected chronic pulmonary disease, and I shall make some suggestions as to those methods of study most likely to yield helpful information.

SHADOWS OBSERVED

Abnormal shadows are observed occasionally on chest roentgenograms of persons without thoracic complaints. This is more frequent in this day of mass x-ray surveys and routine x-ray examination of patients in hospitals and physicians offices. It has become well established that routine roentgenographic examination is a justifiable procedure even when symptoms of thoracic disease are lacking. This has become one of the most significant developments in the practice of preventive medicine, rivaling in importance the routine blood and urine tests so universally performed. It is difficult at times to persuade patients of the potential threat of undiagnosed asymptomatic pulmonary disease, and it is very frequently difficult or impossible to arrive at a satisfactory diagnosis without extensive and prolonged study.

The character and location of abnormalities observed on films of the chest may lead the experienced observer to suspect either tuberculosis, malignant tumor, acute pulmonary inflammation, or rarer miscellaneous conditions. The astute diagnostician will rarely attach an etiologic label to a lesion on the basis of roentgenographic evidence alone, but will demand more direct proof When tuberculosis is suspected, tuberculin tests should be applied, and if results are negative, this disease is usually excluded from further serious consideration. Positive tuberculin tests are, of course, less significant under most circumstances. The diagnosis of active tuberculosis is rarely absolute without identification of the bacillus, and fortunately this can be accomplished much more frequently now than in former decades. Inactive, latent pulmonary tuberculosis may be a serious threat to the patient's future and frequently requires prolonged observation by serial roentgenograms for many years or even for the patient's lifetime. Changing lesions, whether improving or progressing, are more significant than lesions which remain stable over the years.

PROMPT INVESTIGATION

Shadows on roentgenograms of the chest which suggest malignant tumors demand prompt and thorough investigation. Bronchoscopic examination frequently is required and cytologic examination of secretions should be undertaken if such facilities are available. Diagnostic thoracotomy is more frequently resorted to in recent years and should be considered when the experienced diagnostician fears malignant disease but cannot prove it otherwise. He must weigh the risk of operation in comparison with the risk associated with delayed diagnosis. When classical x-ray signs of pulmonary malignancy appear, the disease has too frequently progressed beyond the stage of operability.

Symptoms and findings of pneumonia may be the result of an obstructing bronchiogenic carcinoma, and recurrent pneumonia in the same lobe or segment always arouses suspicion of bronchial obstruction. I believe that each patient with pneumonia should be observed by x-ray until the shadow disappears. This is especially true of males in the cancer age range. Bronchiogenic carcinoma is very much rarer in women and younger individuals, but occasionally an adenomatous tumor of a bronchus may produce obstructive pneumonia in such persons. Pulmonary abscess also frequently is caused by bronchiogenic carcinoma and must not be dismissed without complete examination to exclude this possibility. Obstructive pulmonary inflammation produced by car-

cinoma may respond temporarily to penicillin therapy as dramatically as does lobar pneumonia and mislead the clinician into serious delay.

COUGH AND EXPECTORATION

Cough and expectoration are utterly nonspecific symptoms but deserve serious consideration, especially if persistent and progressive. Often the history alone will strongly suggest bronchiectasis, asthmatic bronchitis, or the functional habit cough of the tense, nervously unstable individual. Bronchographic studies with iodized oil usually are required when the bronchiectasis is suspected, and methods of bronchography have greatly improved in recent years. Bronchographic visualization of each broncho-pulmonary segment is necessary before pulmonary resection for bronchiectasis is considered.

Hemoptysis is a justifiable cause for alarm by patient and doctor. Every reasonable effort should be made to explain the reason for hemoptysis and usually this can be accomplished successfully. Frequently it is necessary to resort to bronchoscopy and bronchography in addition to usual roentgenographic and bacteriologic investigations.

The symptoms of stridor and persistent hoarseness often require thorough examination of the lungs as well as of the larynx. Dyspnea is a symptom difficult to analyze but often a carefully detailed history and physical examination will reveal whether the basis is cardiac or pulmonary.

Pleural effusion always signifies serious disease and an exact etiologic diagnosis should be sought assidiously, and if not found, tuberculosis should be the working diagnosis. Tuberculous effusions may be associated with very abrupt symptoms, closely simulating those of an acute infection and leading to suspicion of pneumonia with pleurisy.

BAFFLING SYMPTOMS

Thoracic pain is often a baffling symptom arousing great apprehension, even when not due to serious disease. Vague, shifting, recurrent aching distress in the chest is a very common symptom in healthy individuals and may well belong to that troublesome assortment of "rheumatic" complaints. When thorough examination reveals no disease and confident reassurance is given by the physician, this symptom often nearly or quite disappears, lending confirmation to the belief that the psychosomatic factor is important. To call all vague thoracic pains "pleurisy" is a serious misnomer in my opinion. The symptoms of true pleuritis are not difficult to recognize and may signify such serious diseases as pulmonary embolism, pneumonia, tuberculosis, or malignant disease.

Most thoracic complaints are first presented to the general practitioner, and it is very heartening to note the keen interest and accurate judgment of many general practitioners in dealing with diseases of the chest. I believe that the recent and future developments in the field of diseases of the chest have greatly complicated the diagnosis and management of such disorders. However, the steadily increasing effectiveness with which thoracic diseases may be treated adds to the interest and sense of satisfaction enjoyed by the attending physician, and contributes materially to the length of life, happiness, and productivity of the patient.

** Abstract of lecture delivered before the New Mexico Clinical Society on January 14, 1949.

Periarteritis Nodosa: A Brief Resume*

Periarteritis nodosa is a disease of vascular origin, characterized by occlusion of the lumen of medium-sized arteries by thrombus, thickening of arterial wall, principally the media; aneurysm formation; and rupture of artery with hemorrhage. As a result of impairment of blood supply, tissues and organs nourished by these arteries are affected with inflammatory and later degenerative changes.

Rich and others have shown that this reaction results as a sensitivity phenomenon. Such sensitivity has been reported following use of sulfonamides, thiouracil, quinine, and aspirin, and could conceivably occur as an allergic response to any drug or bacterial organism.

PROTEAN DISEASE

As arteries anywhere in the body may be involved, the disease is protean in its manifestations. The most common symptoms are referable to the tissues or organs most commonly involved. These symptoms have been adequately outlined previously [1].

Non-specific symptoms and signs, such as weakness, tachycardia, fever, loss of weight, leukocytosis, anemia, and emaciation, are commonly seen. Because of the high incidence of renal involvement, hematuria, albuminuria, edema, hypertension, uremia, and nocturia are frequent. Cardiorespiratory and gastro-intestinal symptoms are less frequent, but are important parts of the course of the disease in some instances.

Of the nervous system symptoms, neuritis is the most common, occurring in over fifty per cent of the cases. Headache, coma, atrophy, sensory involvement, visual disturbances, vertigo, and convulsions occur in decreasing frequency. Eosinophilia, skin changes such as purpura, and palpable nodules are valuable diagnostic findings when present, but they occur in only 36 per cent, 21 per cent, and 14 per cent of the cases, respectively.

CASES CITED

The symptoms of most interest to physicians primarily interested in rheumatism are pain, stiffness, and swelling of joints. Eight of 14 cases of periarteritis nodosa previously reported from the University Hospital, Ann Arbor, Michigan, developed one or more of these symptoms during the course of the disease. Since publication of that series, one other of the 14 cases (case 12) [1] has subsequently developed rheumatoid arthritis but is otherwise getting along nicely now, ten years after the onset of the disease. Thus in this series of cases, 64 per cent developed some evidence of arthritis.

It is of further interest that one patient in this series (case 14) [1] is now feeling well, nine years after the onset of his periarteritis nodosa.

These two cases would indicate that the prognosis in periarteritis nodosa is not always as bad as previously indicated. Many patients with bizarre symptoms and manifestations for a while, probably have mild cases of periarteritis nodosa from which they recover, the disease never having been suspected or proven by biopsy.

By GEORGE M. JONES, JR., M.D., F.A.C.P., Dallas, Texas

1.—Jones, Geo. M.: Periarteritis Nodosa: With Case Reports, Ann. Int. Med., 16: 920-940, May, 1942.

*—Resume of a paper presented to the Texas Rheumatism Association, San Antonio, Texas, May 2, 1949.

From the Department of Medicine, Southwestern Medical College, Dallas, Texas.

Effect of a Hormone of the Adrenal Cortex (17-Hydro-11-Dehydrocorticosterone: Compound E) and of Pituitary Adrenocorticotropic Hormone on Rheumatoid Arthritis

"Compound E has been administered to 14 patients with severe or moderately severe rheumatoid arthritis. In each case improvement in clinical features and in sedimentation rates began to occur within a few days. When administration of the hormone was discontinued, the disease generally relapsed promptly. Essentially similar clinical results accompanied by various biochemical effects were obtained from the administration of the pituitary adreno-corticotropic hormone (ACTH) to two patients . . .

Selection of Patients.—Since the fall of 1948 we have given compound E more or less continuously to 5 rheumatoid patients, and for periods of eight to sixty-one days to 9 other patients: a total of 14 patients. None had mild or moderate disease. All had 'moderately severe' or 'severe' chronic polyarticular rheumatoid arthritis of four and a half months' to five years' duration, not satisfactorily responsive to much previous therapy. Three patients whose disease was of relatively short duration (4.5, 5 and 5 months) were already considered disabled by rapidly progressive arthritis.

"In earlier cases the total dose of Compound E used on the first day was the same (100 mg.) as that used on later days. One hundred milligrams of E acetate is the chemical equivalent of about 89 mg. of Compound E. Because of the slightly higher molecular weight and slower absorbability of the acetate, we administered in later cases 300 mg. of acetate on the first day, and usually 100 mg. daily thereafter . . .

In each of the 14 patients the initial results were as follows: Within a few days there was marked reduction of stiffness of muscles and joints, lessening of articular aching or pain on motion and tenderness, and significant improvement of articular and muscular function . . . The appetite often was rapidly improved . . . Improved strength frequently was noted. Several patients stressed the loss of the 'toxicity' of the disease and experienced a marked sense of well-being . . . In every case, when Compound E or its acetate was employed, sedimentation rates decreased markedly; . . . Most rates became normal within ten to thirty-five days. . . . When serum globulin was increased and albumin-globulin ratios were low or reversed, the use of Compound E, if continued longer than a few days, lowered concentrations of globulin and normalized albumin-globulin ratios.

"It is of course most unfortunate that the currently available amounts of Compound E and of adrenocorticotropic hormone are so small and may remain so for months to come. The production of Compound E by partial synthesis is being expanded; total synthesis may be an eventuality. The supply of adrenocorticotropic hormone, a complex protein, depends on the availability of pituitary glands. Opportunities to enlarge widely the scope of these investigations in the near future appear to depend on improvements in the production of Compound E."—Hench, P.S., Kendall, E.C., Slocumb, C.H., and Polley, H.F., **Proc. Staff Meetings Mayo Clinic** 24:181 (Apr. 13), 1949.

Venous Thrombosis And Pulmonary Embolism

"Up to January 1, 1948, over 2600 patients at the Massachusetts General Hospital have had specific efforts made to prevent or treat thrombosis and embolism. . . . General prophylactic measures only were used in most patients under the age of 30. Specific treatment was indicated in a few of these because of the previous history of phlebitis or the type of lesion present. Therapeutic specific measures were carried out when indications of thrombosis or infarct occurred.

"Four hundred and ninety-six patients between the ages of 40 and 65 were treated prophylactically by small doses of dicumarol postoperatively. None of these died of pulmonary embolism. . . . We believe that anticoagulants cannot be safely used empirically (because of hemorrhagic danger) and that careful laboratory and clinical control is necessary.

"Prophylactic bilateral superficial femoral vein interruption was done on 871 patients whose age, debility or disease indicated that a high per centage of them would be likely to develop thrombosis of the leg veins. Of these, four died subsequently of pulmonary embolism. This was a highly vulnerable group of patients and based on comparative experience there might have been expected 37 deaths from embolism.

"One thousand two hundred and sixty patients were treated by phlebotomy, thrombectomy and femoral vein interruptions after signs or symptoms indicated that thrombosis had occurred. Of these six died of further emboli. . . . In a small per centage of these patients anticoagulants and lumbar sympathetic procaine blocks were also used."—Allen, A. W., Donaldson, G. A., **Bull. New York Acad. Med.** 24:619, 1948.

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NOVEMBER 9-12

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Pseudohemophilia

"The diagnosis of pseudohemophilia is not difficult. The discovery of signs of abnormal clinical bleeding in the presence of a prolonged bleeding time with normal platelets and normal coagulation time would indicate pseudohemophilia. There is commonly a family history of the disease, although this is not always present. . . . There is some variability in the result of the tourniquet test, prothrombin activity and clot retraction. Clot retraction and prothrombin activity are usually within normal limits . . . Either sex transmits the disease. Either male or female may be afflicted. . . .

"**Therapy**". Pressure dressings, local thrombin, thromboplastin, calcium, vitamin C, hykinone, oxycel, tannic acid packs, snake venom, intramuscular whole blood, citrated blood transfusions, and direct whole blood transfusions have all been used in an effort to halt bleeding. All appear to have had no effect with the exception of pressure dressings and direct whole blood transfusions. Citrated blood has had no effect in causing cessation of bleeding, but . . . direct blood transfusions appear to have a direct effect on stopping bleeding."—Halliwell, H. L., and Brigham, L., **Ann. Int. Med.** 29:803, 1948.

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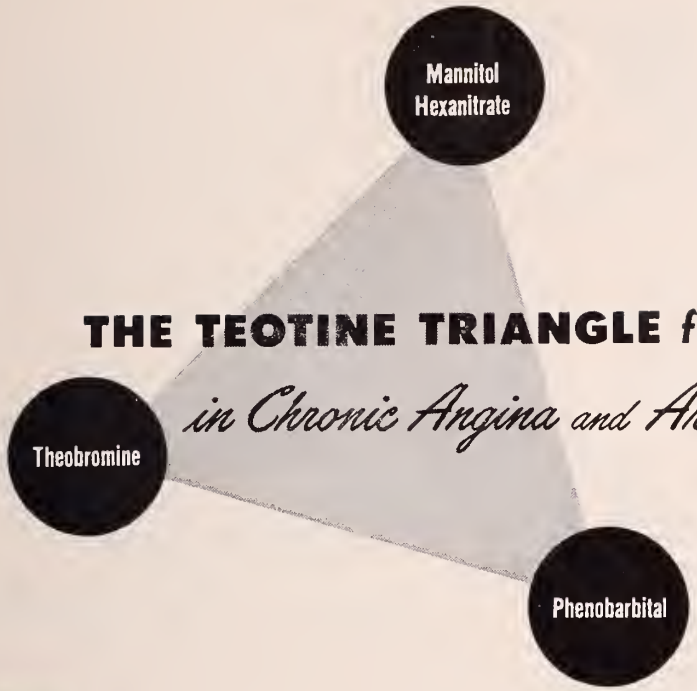
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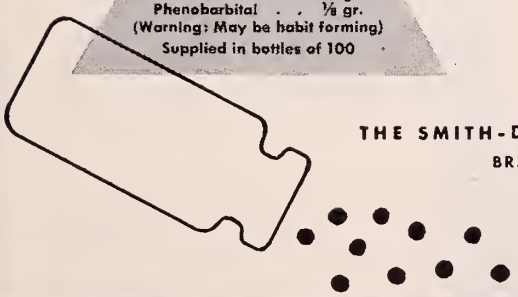
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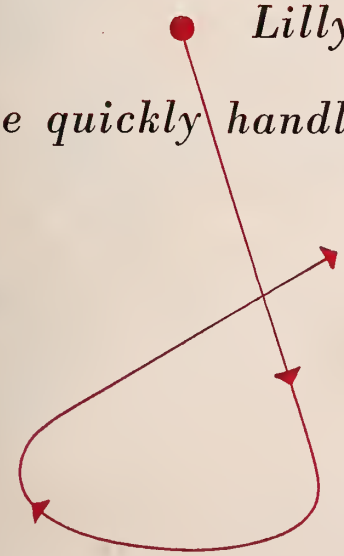
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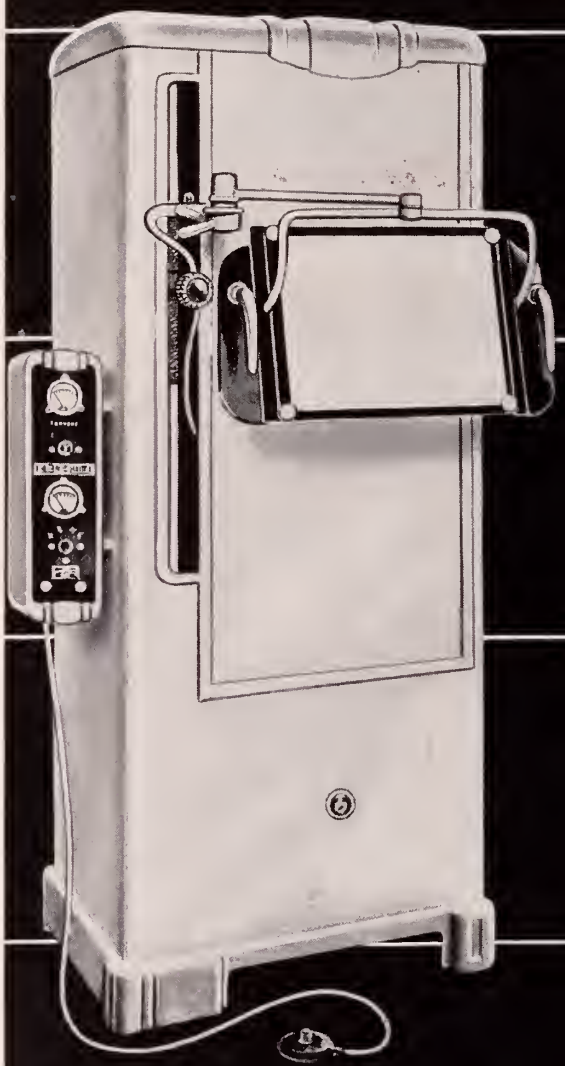
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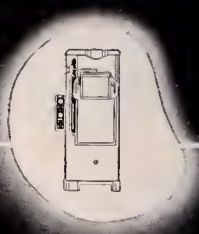
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SOUTHWESTERN MEDICAL ASSOCIATION CONFERENCE

The joint meeting of the Southwestern Medical Association, and the New Mexico Division of the American Cancer Society, to be held in Albuquerque, New Mexico, Nov. 9th, 10th, 11th, and 12th, offers unlimited possibilities as a post-graduate "refresher" course. The committee has been painstaking in its efforts to select outstanding essayists, and has succeeded in formulating a balanced program, from which each individual physician can derive definite and concrete benefits.

Scientific medical thought progresses so rapidly today that it is exceedingly difficult for the busy clinician to keep abreast of the fast-flowing tide. Recently at the dedication of Farnsworth Surgical Building in Boston, Mass., the distinguished sociologist, Chester I. Barnard, speaking concerning medical education, said, in part:

"Another lesson involved, and one not peculiar to the medical field but which applies to every professional field, including management of business, is that the education of competent professional people can never cease. Law schools do not turn out lawyers, engineering schools do not turn out engineers, and theological schools do not turn out theologists. Nor do medical schools turn out doctors. They turn out people trained to rapidly acquire from experience the best way to handle problems with which they are concerned, and trained to also understand the scientific language which they have to use.

"Whatever content of knowledge is involved in formal training is important and not misleading so long as there is not much damage, or only a very slow change, in the content of that knowledge; but when we are confronted, as we are today, with a constantly changing scientific structure and an evolution of new techniques so rapid that one of our major problems is how to keep up with developments, then the need for further formal education of experienced practitioners becomes paramount."

The integrity and the wisdom of Mr. Barnard's observations are unquestioned. However, formal education, even though desirable, is difficult to obtain, but the fa-

cilities offered in Albuquerque at the coming conference are within the reach of each and every practitioner in the surrounding area. Let's make this the largest and best meeting of the Southwestern Medical Association.

The committee on arrangements present the following speakers:

DONALD M. PILLSBURY, M.D., born 1902; graduated Nebraska 1926; Professor of Dermatology and Syphilology, School of Medicine, University of Pennsylvania; Dermatologist to the Hospital of the University of Pennsylvania, the Children's Hospital of Philadelphia, the Bryn Mawr Hospital; Member of the Syphilis Study Section, of the National Institutes of Health; Member-at-Large of the Section on Clinical Investigations of the Committee on Growth of the National Research Council.

HERBERT F. TRAUT, M.D., born 1894; graduated Johns Hopkins 1923; Professor and Chairman of Department of Obstetrics and Gynecology, University of California Medical School; Consulting Obstretician and Gynecologist, San Francisco Hospital; Visiting Gynecologist, Laguna Honda Home, San Francisco; Consulting Obstetrician and Gynecologist, Langley Porter Clinic, San Francisco. He will speak on "The Use of the Vaginal Smear in General Gynecological Diagnosis" and "Bleeding in the Third Stage of Labor."

ELMER BELT, M.D., born 1893; graduated University of California 1920; Attending Urologist: Hospital of the Good Samaritan, Los Angeles; Hollywood Presbyterian Hospital, Los Angeles; Cedars of Lebanon Hospital, Los Angeles; St. John's Hospital, Santa Monica; St. Francis' Hospital, Lynwood; Union Pacific Railway, Los Angeles. Consultant in Urology: Orange County Hospital; Ventura County Hospital; Children's Hospital, Los Angeles; Orthopaedic Hospital, Los Angeles; Physicians and Surgeons Hospital, Glendale. He will talk on "Radical Removal of the Bladder with Transplantation of the Ureters" and "Office Urology."

KENNETH D. A. ALLEN, M.D., born 1889; graduated University of Pennsylvania 1916; Associate Professor of Radiology University of Colorado; President of the Rocky Mountain Radiological Society; Formerly Senior Consultant in Radiology U. S. Army, European Theater, World War II. He will talk on "Practical Considerations of Carcinoma of Cervix Uteri' 'and " 'Scout' X-ray Study of the Abdomen. Its Value to a General Practitioner."

WILLIAM BOYD, M.D., born 1885; graduated University of Edinburgh, 1908; Professor of Pathology and Bacteriology, University of Toronto; Pathologist, Toronto General Hospital, Toronto, Ontario; World renowned author. He will speak on "The Spread of Tumors" and "Glomerulonephritis."

OTTO C. BRANTIGAN, M.D., born 1904; graduated Northwestern 1934; Professor of Clinical Surgery and Professor of Surgical Anatomy, University of Maryland School of Medicine; Chief of Thoracic Surgery, University Hospital, Baltimore, Maryland; Surgeon-in-Chief, Baltimore City Hospitals. He will speak on "Carcinoma of the Lung" and "The Surgical Treatment of Peptic Ulcers."

EVANS W. PERNOKIS, M.D., born 1898; graduated Harvard Medical School 1923; Associate Professor of Medicine, University of Illinois Medical School; Attending Physician of Presbyterian Hospital, Chicago; Attending Physician of Cook County Hospital, Chicago. He will speak on "Leukemia" and "The Treatment of the Anemias."

E. T. BELL, M.D., born 1880; graduated University of Missouri 1903; Professor and Head of the Department of Pathology, University of Minnesota 1920 to 1949, retired June 1949; Author of a Textbook of Pathology, now in its sixth edition; Author of a monograph of Renal Diseases; Many papers on renal diseases published; Research on diabetes now in progress. He will talk on "Experimental Production of Cancer" and "Pathology of Diabetes Mellitus."

HERBERT WILLY MEYER, M.D., born 1896; graduated Columbia; Professor of Clinical Surgery, Post-Graduate Medical School, New York University, Bellevue Medical Center; Visiting Surgeon, Fourth Surgical Division, Bellevue Hospital, New York; Associate Attending Surgeon, Lenox Hill Hospital, New York. He will talk on "Cancer of the Breast," "Diaphragmatic Hernia", and "Perforations of the G. I. Tract."

WILLIAM A. H. RETTBERG, M.D., born 1907; graduated University of Colorado 1935; Assistant Professor of Medicine, University of Colorado School of Medicine; Director of Hematology, University of Colorado Medical Center. He will speak on "Indications for Antibiotics."

ALLAN M. BUTLER, M.D., born 1894; graduated Harvard, 1926; Professor of Pediatrics, Harvard Medical School, Boston, Mass.; Chairman, Council, American Pediatric Society; Vice-Chairman, Physicians Forum; Vice-Chairman, Committee for the Improvement of Medical Care, Inc.; Member of Editorial Board, **Pediatrics, Quarterly Views of Pediatrics, Advances in Pediatrics, Annual Review of Medicine.** He will talk on "Parenteral Fluid Therapy" and "Diabetes."

Many Firms To Exhibit At S.W.M.A. Conference

An unusually fine and varied group of pharmaceutical, surgical and commercial displays are already assured for the Conference of the Southwestern Medical Association which will be held in Albuquerque November 9-12.

No less than 20 firms have reserved exhibit space in the Hilton Hotel, headquarters for the Conference, by August 20, Dr. Bennett F. Roberts, chairman of exhibits, has announced.

Many more are expected to make reservations before the Conference begins, Dr. Roberts said.

The 20 companies, which have already scheduled exhibits, are:

G. W. Carnrick Co., Newark, New Jersey.
E. R .Squibb & Sons, Long Island City, N. Y.
C. B. Fleet Co., Lynchburg, Virginia.
G. D. Searle & Co., Chicago, Illinois.
Ciba Pharmaceutical Products, Inc., Summit, New Jersey.
Mead Johnson & Co., Evansville, Indiana.
Mission Pharmacal Company, San Antonio, Texas.
W. B. Saunders Co., Philadelphia, Pa.
Lanteen Medical Laboratories, Inc., Chicago, Ill.
A. H. Robbins Co., Richmond, Virginia.
Eli Lilly & Co., Indianapolis, Indiana.
Schering Corporation, Bloomfield, New Jersey.
Bilhuber-Knoll Corporation, Orange, New Jersey.
Don Baxter, Inc., Glendale, Calif.
A. S. Aloe Co., St. Louis, Missouri.
Maico Hearing Aid, Phoenix, Arizona.
Blair Surgical Supply Co., Inc., Tucson, Arizona.
Sandoz Chemical Works, Inc., San Francisco, California.
General Electric X-Ray Corporation, Dallas, Texas.
The J. Durbin Surgical Supply Co., Denver, Colo.

"KTENOLOGY," THE SCIENCE OF KILLING

Dr. Leo Alexander, formerly consultant to the Secretary of War, on duty with the Office of the Chief Council for War Crimes, Nuremberg, United States Zone of Germany, during the years 1946 and 1947, proposed the term "ktenology" which in itself means, "the science of killing." Dr. Alexander on his tour of duty was able to obtain first-hand information, and he has written several articles which have disclosed the horrible and vicious practices of certain of the practitioners of medicine in Nazi Germany during World War II.

On first thought one may wonder what advantage an article on such a morbid subject could possibly have in advancing medical knowledge or ethics. However, when it is considered that the rationalization of these mass killings was accomplished through the utilitarian philosophy of Hegel, which has for its corrollary, euthanasia, it well may follow that the mass extermination of the chronically ill in the interest of saving "useless" expenses to the community will be the guiding philosophy of any dictatorship.

How the science of killing worked out in Germany has been admirably set forth by Dr. Alexander in a paper, entitled "Medical Science Under Dictatorship." (1) Apparently, like every other program instituted by psychopathic dictators, it became so enormous that it got completely out of hand. What actually happened was that mass extermination became an extremely adequate means of ridding the politicians of people whose philosophy was not in accord with theirs. Hence, large numbers of people were marked for death for political and racial reasons.

This ideology degenerated to the point that a neuropathologist, Dr. Hallervorden, made the following statement regarding the selection of patients for extermination:

"These were selected from various wards of the institutions according to an excessively simple and quick method. Most institutions did not have enough physicians, and what physicians there were, were either too busy or did not care; and they delegated the selection to the nurses and attendants."

"Whoever looked sick or was otherwise a problem was put on a list and was transported to the killing center. The worst thing about this business was that it produced a certain brutalization of the nursing personnel. They got to simply picking out those whom they did not like; and the doctors had so many patients that they did not even know them, and put their names on the list."

LIVE DISSECTION

As one reads of such procedures as live dissection, heteroplastic transplantation, in which whole limbs were amputated, wrapped in sterile, moist dressings, and sent by automobile to hospitals where the procedure was tried with absolutely negative results; and the prisoners deprived of the limb usually exterminated by lethal injection, the question of the motivation of the men lending themselves to these horrible experiments arises. Apparently it was not ferocity; it was fear and cowardice.

For example, Dr. Sigmund Rascher, the noted vivisectionist, was suspected of being a communist, and committed his dastardly crimes in order to gain full-fledged acceptance by the Nazi party.

Professor Gebhardt performed these experiments to clear himself of the suspicion that he had contributed to the death of General Reinhard Heydrich by failing to treat the General's wound infection with sulfonomides. The General died from gas bacillus infection; and Himmler told Dr. Gebhardt that the only way that it could be proven that Heydrich's death was fate-determined was to carry out experiments on prisoners that would prove or disprove that people died from gas bacillus infections, whether or not they were treated with sulfonomides.

HEGELIAN PRINCIPLE

In the United States today, with the advent of ever-increasing knowledge in the science of medicine, the physician is more and more turning towards rehabilitation of the patient as the goal of his endeavors; and unconsciously there creeps in the Hegelian principle, "what is useful is good." When a patient becomes chronically ill; and there is literally no chance of rehabilitation of this patient, sad but true, the physician's interest is apt to wane.

Hospitals do not wish to accept the burden for cases which are relatively incurable. Institutions for the care of incurable cases are few and far between; and many of those that are available are not, let us say, first-class institutions for the treatment of the chronically ill patient.

CONVALESCENT HOMES

The American medical profession will never stoop to the level that the followers of Hitler did, but the profession must recognize that a certain percentage of patients that are chronically ill cannot be rehabilitated, and that someone must take care of these patients. These patients should not be placed in convalescent homes, administered by laymen who have simply a pecuniary interest, and not the interest of the alleviation of pain.

We must recognize the fact that these patients are human beings, and that their suffering and pain must be alleviated by analgesics and pain-relieving operations, which have now been developed to the point to where there can be essentially no rationalization for euthanasia. We must return to the older premises in which the physician's function was to give hope to the patient. We must give this hope in spite of what we may regard as hopeless. It is only through an attitude such as this that occasionally patients whose recovery has been entirely doubtful have fooled the best prognosticators.

NO CERTAINTY

The medical profession has not, and in all probability, will not arrive at a point of perfection at which we can accept an attitude of absolute certainty as regards prognosis. In view of the fact we must by necessity remain simply individuals attempting to alleviate suffering by scientific means and not become overwhelmed by our sense of importance so that we make a vain attempt to emulate the Great Healer.

1. "Medical Science Under Dictatorship", Leo Alexander, M.D., Boston, **New England Journal of Medicine**—Vol. 241, July 14, 1949, No. 2., P-39.

Treatment Of Infective Asthma: Penicillin In Beeswax And Oil

"Thirty-nine cases of intrinsic asthma treated with 600,000 units of penicillin in wax and oil daily, followed by similar booster doses every five to seven days, are reported. Thirty-one were improved.

"It is concluded that **any** case of infective asthma deserves a trial with penicillin in wax and oil, and the majority will benefit materially."—Gay, L. N., and Marriott, H. J. L., **Tr. & Stud. Coll. Physicians, Philadelphia** 15:91, 1947.

"Grotesque, Medieval, And A Shame"

The United Mine Workers have a clause in their contract with the coal industry which states that the miners are required to work only when they are "willing and able." This in itself is a unique situation. Apparently no consideration has been given business or the innocent public who might need coal.

John L. Lewis is a verbose individual, and he makes a specialty of headline phrases, and his latest is "menacing instability". Our old friend, John, promulgates the theory that heavy supply of coal on hand threatens the national economy, but what it really threatens is the economy of the United Mine Workers.

LEWIS VERBOSE

Mr. Lewis' verbosity manifests itself as regards business and professional men in a United Press dispatch in which the U.M.W. Journal comments as follows:

"The greed of gallivanting physicians is giving socialized medicine a big lift. It used to be the tired businessman who led the parade of those who flocked to the girl shows, tripped the light fantastic, and drank an overflow of liquor in the role of good-time Charlie. But physicians today are giving the businessman a run for first honors."

Now how do you suppose good old John found out that the doctors were ruining their eyesight? Surely the poor, downtrodden miners, who can only work when they are willing and able, would not be able to afford a ringside table at these expensive night clubs. Could it have been good-time John himself? It might be suspected that perhaps he could afford it, although he has not paid, as yet, the twenty thousand dollars out of the $1,400,000 which he and his cohorts caused the miners to be fined.

SOCIALIZED MEDICINE

Let us stop for a moment and consider why Mr. Lewis favors socialized medicine. Note that he doesn't call it compulsory health insurance; he labels it correctly. He understands panel medicine. He has had a first-hand opportunity to see it work. The miners pay for their medical care through wage deductions, two or three dollars a month. For another three dollars a month, each miner and his family get free hospital coverage with only venereal disease and obstetrics excepted.

Could it be that this type of medicine has not been entirely successful? If it had been a success, why should Mr. Lewis and his miners support socialized medicine? It could be simply for political reasons, because Mr. Lewis and his miners have defied the government and the public time and time again, and apparently will continue to do so; and the government will continue to do nothing about it.

GOVERNMMENT INTERFERENCE

One does not have to rationalize greatly to see that there must be something the matter with Mr. Lewis' panel medicine. Or Mr. Lewis is perfectly willing that the government interfere with industry so long as the government doesn't interfere with the United Mine Workers; and when the Southern Coal Producers' Association asked that the miners give up their one-half hour paid lunch periods and add to the working time at the coal face, and that the clause be eliminated requiring the miners to work only when "willing and able," Mr. Lewis became highly indignant and put on his hat and went home, and left Mr. John Owens, the Union Secretary, to fume at Mr. Moody, and to assert that such demands by industry were "grotesque, medieval, and a shame."

Gallup Indian Clinic Reopened

The Navajo Medical Clinic, which has been closed for the past year, has been reopened for the treatment of the Navajo Indians in and around Gallup. Dr. H. T. Watson of Gallup is medical director of the Clinic.

Dr. Watson has been in McKinley County for the past 31 years. He has been in private practice in Gallup 26 years and is well known among the members of the profession throughout New Mexico. He is closing his office for the private practice of medicine and will devote all his time to his new duties.

Dr. H. W. Kassell, the medical director for the Navajo Service, has announced that a new and up-to-date building will be erected in the near future. In this new building besides the Navajo Clinic and dispensary will be the headquarters for the Indian Field Health Unit which will consist of the medical director for the clinic, a dentist, five field nurses and a sanitarian.

The Navajo population and the people of McKinley County are happy to see the clinic revived under the direction of such an able man as Dr. Watson, this being the first step to provide the Navajo Indians in McKinley ounty with improved facilities for better and up-to-date medical care.

By VINCENT ACCARDI, M.D., Gallup, N. M.

Hospital Records Or "Fly Tracks"

Detroit Medical News (October, 1947) reported that at a clinical pathological conference in one of their Detroit hospitals, a case history was presented together with the following explanation:

". . . We were unable to read most of the hospital chart. . . . We called in various experts to help us decipher the record. As is usual with experts, they did not agree. The Army cryptologists . . . held the view that the chart was written in Japanese. . . . The archeologists of Columbia University stated flatly that the document constituted a remarkable example of early Runic poetry. . . . The Leland Stanford faculty was equally certain that the document was a case history from a Babylonian insane asylum. The Crime Laboratory of Northwestern University . . . asserted that the characters in question were the aimless wanderings of a young housefly not yet house-broken . . ."

All hospitals make much ado about completed records but some appear to be more concerned with the number of lines written than the legibility of the record. If all hospitals required typewritten records and provided personnel for that purpose, the difficulties of deciphering hieroglyphics would be obviated and the records would be more detailed and complete.

Effect Of Chloromycetin In Typhoid Fever

"A new antibiotic, Chloromycetin has been clinically tested in the treatment of typhoid fever . . . Serum levels of the drug after oral administration have been found to be comparable to those obtained by parenteral injection.

"Reports on . . . Chloromycetin in the treatment of human infections, up to the time of writing, have been confined to its use in epidemic typhus and in scrub typhus. In both of these rickettsial infections [it] has demonstrated marked therapeutic effectiveness." — Woodward, T. E., **et al., Ann. Int. Med.** 29:131, 1948.

New Otero County, N. M., Hospital



The Gerald Champion Memorial Hospital In Alamogordo.

The new Gerald Champion Memorial Hospital, one of the finest small, county hospitals in the United States, was opened with appropriate ceremonies late this summer, thus bringing to Otero County in southern New Mexico, the most modern and complete medical facilities.

The new hospital was dedicated July 31 and accepted its first patients August 2.

It was constructed at a total cost of $224,000. The building itself, was erected by Ponsford Brothers of El Paso for $154,000. Nurses quarters cost another $18,000. The remainder of the sum was used for purchase of scientific and medical equipment and supplies.

The money for construction of the new hospital came from three sources. Residents of Otero County contributed $104,000 during a vigorous subscription campaign. Then voters by a heavy margin approved a $50,000 bond issue for the hospital; and lastly the federal government contributed $70,000.

Mrs. Grace G. Powe is both superintendent of the hospital and superintendent of nurses. Only graduate registered nurses serve in the hospital.

Facilities include 26 beds, 14 of them in private rooms and 12 in wards.

The hospital also includes an operating room and obstetrical and out-patient wards.

Equipment includes x-ray and laboratories with a trained and registered technician, basal metabolism apparatus, electrocardiograph and diathermy machine equipment.

Opening of the Gerald Champion Memorial Hospital in Alamogordo represents the culmination of more than three years of hard work and diligent planning by public minded citizens of Alamogordo. Time, money and various other contributions were made by a very large proportion of the residents of the county.

The idea for construction of the hospital first took shape at a meeting of Alamogordo Chamber of Commerce in April, 1946. At that time a goal of $100,000 for construction of the hospital was established, and Gerald Champion of Tularosa, an outstanding civic leader, was chosen to head the campaign.

The first hospital board was elected in June, 1947, with the following members: Gerald Champion, chairman; Mose Cauthen, vice-chairman; L. A. Hendrix, secretary; M. R. Prestridge, Chris Gallegos, Father Francis, Dan King, Mrs. J. F. Mahill, and P. B. Hendricks.

The tragic death of Gerald Champion in a plane crash in February, 1948, made Mose Cauthen chairman. C. E. Moore was appointed to fill the vacancy, and John Larkin succeeded to the post vacated by Father Francis when he moved from Tularosa.

The board in February 1948 voted to name the hospital the Gerald Champion Memorial Hospital in memory of Mr. Champion.

Site of the hospital was deeded by the Hospital Association to Otero County in November 1948.

Digitoxin Intoxication

"Digitoxin has practically replaced digitalis USP (digitalis leaf), but the dangerous aspects of its administration have been disregarded and digitoxin intoxication has become frequent. . . .

"The administration of digitoxin, like that of any other preparation of digitalis, because of the variability in absorption, excretion and therapeutic effect, is an individual experiment.

"The dosage of 1.2 mg. as a single digitalizing dose and of 0.2 mg. for maintenance has often been applied indiscriminately to patients regardless of weight, without proper surveillance of the patient and without awareness of the dangers involved in using the drug. It must be remembered that the daily maintenance dose of digitoxin varies from 0.05 to 0.02 mg."—Master, A. M., **J. A. M. A.**, 137:531, 1948.

Diagnosis And Treatment Of Subphrenic Abscess*

By E. Vincent Askey, M.D., Los Angeles, Calif.

A surgeon usually has several degrees to put behind his name. Of late he has been accused of having two additional ones which, depending upon the use to which he puts them, may be harmful or of benefit to his patient. I refer to B.A.B. and B.S. Before antibiotics and before sulfonamides. Reliance on either medication as a cure-all, hoping to avoid surgery, may sound the death knell for a patient. The failure to use them as an adjuvant to surgery may be equally disastrous. In no other condition is this statement more applicable than in the treatment of subphrenic abscess.



DR. ASKEY

ASPECTS CLARIFIED

Ochsner and Graves, in 1931 and 1933, clarified many important aspects of the condition. I fear, however, that one important statement they made has been misread and misinterpreted, especially since the B.A.B. and B.S. degrees have been added to our names. They estimated that 70 per cent of subphrenic infections subsided spontaneously. Relying on this statement, antibiotics and sulfonamides have been used in frank abscess below the diaphragm, delaying surgery to the extreme detriment of the patient. Ochsner did not say that 70 per cent of subphrenic abscesses subside spontaneously. That is an extremely important point to remember. Unfortunately, very few, if any, of these abscesses will subside without adequate surgical drainage. Many men have called attention to the fact that once a subdiaphragmatic abscess has formed, it constitutes an overpowering menace to the patient's life until it is accurately diagnosed and adequately drained. I believe that the best that can be expected of chemotherapy in these cases, when used without surgery, is the putting off of the evil day of catastrophe that is practically inevitable. Used as an adjuvant to surgery, the story of course is that of a different colored horse.

SUBPHRENIC ABSCESS

Subphrenic abscess is an intriguing thing to a surgeon. It calls into play almost all the factors most involved in his professional life. The condition usually follows an harrowing experience of a difficult case that already has taxed the surgeon's resources as well as the family's. It may on the other hand suddenly arise to complicate a battle that was apparently won. Added to this is the extreme difficulty in arriving at the correct diagnosis, and then in deciding on the correct approach in the technique of the operation. As Maingot says, "The pathology of the condition is complicated by the intricacy and the multitudinous anatomical arrangements and connections of the subdiaphragmatic region. Diagnosis is difficult. This is in part due to the inaccessibility of the subphrenic region and partly to neglect to consider the possibility of subphrenic abscess in the individual case."

FOLLOWS LESION

Subphrenic abscess is primarily a localized suppurative accumulation that has followed some intra-abdominal lesion and infection.

Appendicitis is the most common cause but perforated ulcer, perforated gallbladder, perforated diverticulitis, or pelvic infection as well as many other conditions may initiate the train of sequence that eventuates in subphrenic abscess. It may follow gastrectomy or splenectomy.

From the year 1845, when Barlow first discovered the condition clinically, and after 1908, when Barnard made his diagnostic dictum, "Signs of pus somewhere, signs of pus nowhere else, signs of pus there," and until Ochsner proposed and perfected the technique of retroperitoneal subpleural drainage, the mortality was appalling. It still is a condition that we can learn about.

For the sake of orienting ourselves, a review of the anatomy at this time will not be amiss.

Martinet originally gave an accurate and detailed description of the subphrenic spaces.

I like personally the succinct and clear description of Philip Thorek in fixing in my mind the six subphrenic spaces.

THREE SUPRAHEPATIC SPACES

The suprahepatic region is divided by the falciform ligament into right and left parts. Space One is situated to the right of the falciform ligament, above the liver and anterior to the right lateral ligament. It is, therefore, called the right superior anterior space. Space Two is located at the right of the falciform ligament, above the liver and behind the right lateral ligament. It is called the right superior posterior space. Spaces One and Two are separated from each other posteriorly by the bare area of the liver. Space Three is found to the left of the falciform ligament; and since the left lateral ligament passes posteriorly along the flattened left lobe of the liver, there is only one space on this side in contrast to the two on the right. It is called the left superiorspace.

THREE INFRAHEPATIC SPACES

The infrahepatic region is divided by the descending duodenum into right and left parts. For convenience we have numbered these spaces Four, Five and Six. Space Four is to the right of the duodenum, and below the liver. It is, therefore, called the right inferior space. This is the same as the hepatorenocolic pouch of Morison. Space Five is found to the left of the duodenum, and below the liver and in front of the stomach. It is called the left inferior anterior space. Space Six is located to the left of the duodenum below the liver and behind the stomach. It is called the left inferior posterior space or lesser peritoneal cavity.

We have now considered the easiest part of the problem. We know that there is such a thing as subphrenic abscess. We know the anatomy of the spaces. The difficult thing is to diagnose the condition when we are confronted with it.

Paradoxically, the most difficult part of the diagnosis should be the easiest. I believe the greatest mistake made in failure to diagnose subphrenic abscess early is the failure to think of it as a possibility. Once it is thought of; and the diagnostic aids, which we have at our disposal are used, we may expect reasonably a fair average of success.

In my opinion, the greatest aid in diagnosis is the X-ray. Given a case with fever, leucocytosis, pain and previous abdominal infection with the train of symptoms that makes us think of subphrenic abscess, the X-ray is our first resort. The fluoroscope is important in showing fixation or limitation of motion of the diaphragm. However, plates are equally important and may be definitive.

*—This article was presented before the International Post-Graduate Assembly in San Antonio.

Three positions should be used:

1. Anterior posterior with patient sitting up.
2. A lateral film with patient sitting up.
3. Anterior posterior with patient lying on side with the affected side up.

ARTIFICIAL PNEUMOPERITONEUM

If these are not definitive, artificial pneumoperitoneum should be introduced and the pictures as above described repeated. This has proved of great value. The procedure in the hands of an experienced peritoneoscopist is not difficult. I have been fortunate in having advice in this regard from Dr. Robert B. Hope of Los Angeles, a former associate of Dr. John Ruddock.

I was interested to see in an article by Dr. Leroy Santi that he agrees with me in the value of pneumoperitoneum and he is speaking as a roentgenologist. He says, "One way in which infection of the subphrenic space can be demonstrated is by the aid of artificial pneumoperitoneum. If it is the site of inflammation, the adherence of the diaphragm to the upper surface of the liver or spleen will prevent access of air to this region. In cases of basal exudate in the pleural cavity it is of great help to determine whether it is a simple pleural exudate or is associated with a pyogenic infection below the diaphragm."

This procedure is the one I wish to discuss today. The utilization of artificial pneumoperitoneum will give more definitive information than other procedures with less danger. This observation demands the consideration of aspiration as a diagnostic procedure in subphrenic abscess.

To aspirate or not to aspirate is a moot question, yet, although even those who advocate its use emphasize that it should be done only immediately before operation; so that, if pus is found, immediate incision and drainage may be carried out. There are two great dangers in aspiration. First, the great danger of pleural contamination with resultant infection and empyema. Second, the one I fear more, a negative finding on aspiration. A negative finding on aspiration, if done, should not be allowed to delay surgery, if it is otherwise indicated. If this statement be true, and I believe it is, then I see no benefit to the aspiration and there is considerable added risk.

As in all things, however, there is exception to this rule and I must answer the old question with the old answer. Do you never aspirate? Well, almost never. There is a place for aspiration and it is as follows:

Given a case with definite pleural effusion, which may be either concommitant with subphrenic abscess, or, is a basal pleural effusion, I believe aspiration of the pleural effusion is indicated. This in conjunction with artificial pneumoperitoneum is then often definitive and of great value. When the coordinated signs point strongly to the diagnosis, I believe that exploration may be done with less danger to the patient than will be risked by added delay. Unnecessary delay courts disaster.

OCHSNER APPROACH

Then how shall the operation be carried out?

Fortunately, as Bailey points out, the right subphrenic spaces are involved more than the left in ratio of about seven to one. In these right abscesses Ochsner extraperitoneal and subpleural approach is much to be preferred. If the posterior space be involved the resection of the twelfth rib and approach to the abscess can be accomplished rather readily. If the right anterior inferior space be involved usually it is glued to the anterior abdominal wall and is pointing with a relatively easy drainage being possible. If the right anterior superior space be involved the Ochsner approach again is the choice.

However, those abscesses of the left spaces are open to more discussion as to the procedure of choice.

Neuhof and Schlossman have called attention to the fact that since the stomach, spleen, and other structures constituting the lower boundaries of the left anterior superior space are more mobile, that there tends to be less elevation of the diaphragm. Usually, considerable displacement downward and medially of the stomach and colon may be found. They call attention to the added help that the administration of a gas forming medication, such as Seidlitz powder, may give in the X-ray examination by filling the stomach with air and allowing the abscess to be delineated through the bubble. A left sided abscess in the anterior superior space points either thoracically or abdominally. For the abdominal pointing the subpleural approach is satisfactory. For the thoracic pointing type Neuhof and Schlossman. believe a transpleural transdiaphragmatic approach is preferable. The diaphragm is sutured securely to the musculature of the thoracic incision and the free pleural space is shut off. The diaphragm is then traversed and drainage established.

The left posterior inferior space, or the lesser peritoneal cavity, may also be approached through the gastro-hepatic omentum as indicated by Thorek, but this involves transperitoneal contamination and its concommitant disadvantages.

Fortunately, I have not had experience with the left sided abscess.

SUMMARY

I would summarize then the importance of:

1. The continued realization that subphrenic abscess should not be treated exclusively by reliance on the antibiotics or the sulfonamides.
2. There are six definite subphrenic spaces that must be kept in mind.
3. X-ray examination by the three position method is imperative.
4. Pneumoperitoneum is a means of added refinement in diagnosis.
5. Drainage by the Ochsner method is preferable and adequate except possibly in the left sided thoracic pointing abscess in which the transpleural-transdiaphragmatic approach may be the choice.
6. The greatest single diagnostic aid in subphrenic abscess is the alertness of the surgeon in thinking of it as a possibility.

The Prevention And Treatment Of Motion Sickness

"During a period of 10 days, Dramamine [beta-dimethylaminoethyl benzohydryl ether 8-chlorotheophyllinate] was given to 389 cases of seasickness. Of this number, 372 were completely relieved of symptoms within 1 hour after the first dose of 100 mg. Seventeen cases derived only partial or no relief. A dose of 100 mg. prescribed every 5 hours and before retiring was adequate to control the most distressing symptoms. When the patient was unable to retain a capsule administered orally, he did retain and absorb the drug given rectally. The benefit derived by this method was as rapid and as complete as that derived by the oral method."—Gay, L. N., and Carliner, P. E., **Science** 109:-359 (Apr. 8), 1949.

Influence Of Southwestern Climate on Diseases of the Nose and Sinuses

By M. P. Spearman, M.D., F.A.C.S., El Paso, Texas

Speaking of the vagaries of the weather and climate, and slyly digging at man's inability to alter them, one famous writer [1] has said "probable Nor'-East to Sou'-West winds, varying to the southward and westward and eastward and points between; high and low barometer, sweeping about from place to place; probable areas of rain, snow, hail, and drought, succeeded or preceded by earthquakes with thunder and lightning."

Weather and climate are spoken of as being abstract things, annoying, interfering or pleasing as the case may be. Weather is a combination of temperature, light, moisture, air movement, barometric pressure. The prevailing sum of these variables make up a given climate. The action of these phenomena upon living and inanimate objects constitutes a gigantic, mysterious, never ending chemical process, so that it may be said that all things, as we know them, exist in a huge chemical retort, known to us as the world and its enveloping atmosphere. Logically, then, man is subjected to a number of pressures and interactions by the surging of climatic influences upon him. His climate modifies and shapes his food, his housing, his disposition to laze or to fight or invent, his physical and mental development in groups or as an individual, and his health. And, in a large sense, man's health is simply a measure of his ability to adjust himself to his environment and to the changing climatic factors that shape that environment. Therefore, it is fruitful for physicians to observe and study the influence upon man of his climate.

EFFECTS OF WEATHER

Easily observed and recorded in the books of geology and chemistry are the effects of the crackling frosts of a thousand dark winters upon the rock masses of the earth. Any amateur gardener knows that certain plants, beautiful and healthy in climates far from his, simply will not do in his part of the world. And he can cite fairly good ideas as to why this is so. More esoteric are the final reasons why one man may enjoy good health in a certain area, but be reduced to illness by living in another.

It has been known for a long time that it is good therapy to advise patients to change climates at times. Indeed, Mills, [2], in an exhaustive study of climate in relation to disease, says that "storminess or atmospheric turbulence with the accompanying sudden changes in temperature, pressure, humidity, etc., is now recognized as a major disturbing factor in certain regions of the earth where cyclonic storms prevail. These sudden changes in the atmosphere seriously disrupt tissue functioning in ways as yet little understood and seem closely related to the initiation of many types of acute infectious attacks. Storm changes certainly constitute a major health factor in regions where they are frequent and abrupt, but much more evidence must be accumulated before the physiology of their effects can be understood clearly. Physicians should realize that individuals differ greatly in their sensitiveness to storm changes. Some are utterly unfitted for existence in a stormy region and should be advised of the advantages of migration to a region of less turbulence."

Further, the same authority, after study of weather and storm data says:

"Cyclonic storm changes seem to be a potent factor in the initiation of the infections. Migration should therefore be to a non-stormy and warm region. In North America that would mean the Southwest within 200 miles of the Mexican border from El Paso to the Pacific coast."

Petersen [3] has noted precipitation of symptoms and change in the clinical course of various ocular diseases with a change in meteorologic environment.

EL PASO CLIMATE

In the deep Southwest, in and near El Paso, lies a vast area of semi-aridity, at an altitude of 2000 to 4000 feet. Rainfall is about nine inches annually. The sun shines more than 80 per cent of possible hours throughout the year. During the winter months the sun beats down 70 per cent to 80 per cent of all possible hours. Thus, there is a combination of moderate altitude above sea level, dry atmosphere and bright sunshine throughout the year, together with freedom from cyclonic storms.

As might be expected, many visitors from the mid-west and the North take up residence in this area during the winter months, thus to escape the icy blasts and deep snows storming into their native areas. Many patients are sent to the Southwest by their physicians, especially during the winter season. Not all benefit from the dry weather, and one observer, Egbert [4], has remarked upon the dryness of the tracheo-bronchial air passages in some patients seen by him in El Paso. He has noted, in many cases of asthma, a dry tracheitis, producing "an incessant and spasmodic cough". He has observed aggravation of symptoms in many, upon arrival in the arid climate of El Paso. These symptoms, he says, are troublesome and challenging.

EFFECT OF DESERT CLIMATE

Those of us in the field of nose and throat medicine have noted countless instances where the sick visitor has exhibited a remarkable improvement after a sojourn in the desert areas. The copious, heavy nasal discharges often dry up rapidly and the productive cough lessens in severity. The marked turgescence of the nasal mucosa lessens and nasal ventilation is improved, thereby giving the air-conditioning apparatus of the nose a chance to function. The patient is advised to get out in the open air and sunshine, if only for a few hours daily. If he wishes, horseback riding and golf or tennis are permitted. Tonics are prescribed, including a small glass of wine before meals, with the purpose of helping the appetite. It is not unusual to note excellent gains in weight by many.

After a week or two in the desert most patients seem to have more energy to undertake various activities—the feeling of deadening fatigue begins to disappear. Our office treatments are usually confined to the milder procedures such as displacement and allergy therapy, where indicated. Serial x-ray films on numerous patients demonstrate remarkable clearing of cloudy sinuses, with no definitive therapy whatsoever. It cannot be simple coincidence that so many, each winter, show the same pattern of objective and subjective improvement.

RESUME OF WINTER 1947-1948

During the winter of 1947-'48 the writer cared for 152 patients sent to El Paso from their homes in the mid-west and east. Most came from Illinois, Ohio, Indiana and Pennsylvania. Five were from Toronto, six from Maine, four from Boston, and the rest were from scattered areas in the northeast. Economic status ranged from semi-charity to extremely wealthy. The majority were in moderate to comfortable financial means. The

occupations ranged from railroad depot agent to an owner of a coast-wise steamship line. Many were school children. Most gave histories of repeated, severe respiratory infections, with the usual gamut of complications such as sinusitis, bronchitis, pneumonia, etc. The stay of these patients in El Paso ranged from a few days to the entire winter season. Some were treated two or three times, while others made periodic office visits, throughout the season. Six were operated for nasal polyps, two were operated for naso-antral windows, one had a radical antrotomy. All the rest were treated for their symptoms only, using a displacement in some, anti-allergy therapy in others and a simple nasal shrinkage with general supportive therapy in the rest. Plenty of time was consumed in the administering of applied psychology to many. So often these patients, far from home, are discouraged, fatigued, disillusioned in the quest for health. Confronted by a physician who will take the time to listen to them, understand them, and dispense friendly advice, many begin to show improvement, mentally and physically, very soon after arrival. With many, an effort is made to introduce them into church and club circles so that loneliness may be lessened. All these modes of therapy are of use, to varying degree, in different patients.

No penicillin inhalation therapy was used in any. It is felt that too often this is a waste of the patient's time and money, and it is widely known that many patients are sensitized needlessly to a valuable drug by this procedure. Some patients came to El Paso expecting an overnight miracle. These left soon after their arrival, and were the ones least benefitted. Of the total number of patients seen last winter, over 75 per cent experienced improvment to varying degree, both subjectively and objectively.

SUMMARY

Climate and weather affect all things on this earth, including man. Some human beings are affected adversely and are made ill by weather changes. Many of these are improved in health by a sojourn in desert areas. The El Paso climate is described as suitable for patients having certain diseases of the nose and sinuses. A resume is given of cases treated by the writer during the winter of 1947-'48, with methods and results. Three tables are included.

TABLE ONE

Maximum and Minimum Temperatures
Two Desert Resorts
(Official U. S. Government Figures)

	El Paso		Tucson	
January	58	32	64	34
February	62	37	68	38
March	69	42	74	41
October	77	51	86	51
November	66	39	74	51
December	57	33	65	36

TABLE TWO

Moisture Various Cities

	Av. Yearly Ppt.	Relative Humidity 5 PM-8 PM
Boston	40.14	71
Jacksonville	49.74	74
New Orleans	60.01	71
El Paso	8.86	28
Los Angeles	15.55	60

TABLE THREE

Sunshine Various Localities

	Yearly Per Cent Possible Sunshine	Winter Per Cent Possible Sunshine
Boston	57	40-50
Jacksonville	63	60-70
New Orleans	59	50-60
El Paso	79	70-80
Los Angeles	72	60-70

1. Clemens, S. L., New England Society, 22 December, 1876.
2. Mills, Clarence A., Oxford Medicine 1940, 1:454ff.
3. Petersen, W. F., Arch. Oph. 29:747, May, '43.
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The Skin and Its Contents

Anonymous

Unseasonable as it is, we pass along a lay description of the common cold. We have borrowed this little pearl from "The Diary of Samuel Marchbanks" by Robertson Davies, (Clark, Irwin & Company Limited, Toronto), one of the most delightful and refreshing books published since we were very young. We quote . . . "To me the annoying thing about the cold germ is that it has such a poor sense of timing; when I am in perfect health, but would welcome a chance to stay in bed for two or three days, I could not catch a cold if I slept in a freezing locker; but when I am too busy to fuss over trifles I catch colds with the greatest of ease, and have to go on working in spite of them. I know that physicians advise against this, but I have yet to see a physician take a few days in bed because of a cold. They generally keep going as long as they can be carried from patient to patient."

We are somehow unmoved by Mr. Louis Johnson's urgent appeal to drop everything and join the Armed Services. During the recent unpleasantness we had the privilege of serving with an infantry division. During garrison and occupation duty we put in about ten minutes a day signing sick books which left 23 hours and 50 minutes to get drunk or go crazy (we did both). Then we had five months of uninterrupted combat, during which we would have welcomed a little help from the twenty-odd M.O.'s who were bogged down with map-boards, property sheets, command decision, and what not. Matter of cold fact, while almost every General Hospital in the ETO was screaming for EENT men, we had a qualified, certified EENT board man commanding a medical battalion. Pity the late Mr. Ripley passed on at such a tender age.

It's not a very impressive series of cases, but we have had a few patients (fr. L. patiens, —entis, pres. part. pati- —to suffer) who were relieved of their suffering from shingles by a short course of liver extract. We do not feel the relief was entirely psychogenic as they had received everything else in the books first.

We wish our worthy colleagues in other parts of these United States would cease and desist from advising their indigent patients with pulmonary tuberculosis to streak for the Southwest. It merely results in their being sent back home, where at least they are eligible for sanatorium care. We sometimes think a law should be passed prohibiting a known active case of the white plague to cross a state line without written proof that a hospital bed is open and waiting for him at his destination.

We pass along the following without comment. The 80-year-old groom was advised by his physician to take in a boarder during the first months of his marriage to the 20-year-old bride. Some months later the doctor asked how things were going . . . "Fine, just fine; and my wife's expecting a baby soon." "Excellent," said our man, "And how is the boarder?" "Nicely, thank ye, and she's expecting soon too."

INFANTILE ECZEMA

By George K. Rogers, M.D., Phoenix, Ariz.

"Infantile eczema" is a term used to cover a skin irritation in children under two years of age. It is characterized by redness, weeping, scaling and thickening of the skin. The eruption may be acute, sub-acute or chronic and may on occasion prove fatal as a result of septicemia, bronchial pneumonia or intestinal intoxication. Modern means of diagnosis now reveal that there are several types of infantile eczema and the importance of making correct diagnoses is of more than scientific interest, for it gives a clue as to the best method of treatment. The various classifications are as follows:

1. **Atopic eczema (neurodermatitis or disseminated neurodermatitis).**

This form is the most common and is usually seen in children with an allergic familial background such as eczema, hay fever, asthma or migraine and this is an important point in arriving at the correct diagnosis. The stronger the allergic background the earlier the disease makes itself manifest in the child, and the more difficult it is to obtain a response to treatment. The etiology is an allergen to which the infant has become sensitized after previous exposure, and it may be of internal or external source. Allergens of internal source are the most likely in infants under six months of age and the most common of these are milk, egg and wheat. As the child grows older the possibilities of coming into contact with external factors widen, thus we find allergens of external source becoming increasingly important and the most important of these are wool, feathers and silk. The eruption has certain distinguishing features not so much in appearance as in distribution. The face, nape of the neck, cubital and popliteal fossae are usually the first sites affected. It is noteworthy that the eruption leaves a circumoral area of normal skin. The eye-brows and scalp are frequently spared; and involvement, if it occurs, appears later. The eruption can become generalized, and as it subsides, the first places to break out are usually the last places to respond to treatment.

2. **Seborrhoeic eczema (seborrhoeic dermatitis).**

This is probably the second most important type of infantile eczema. The etiology of seborrhoeic dermatitis is unknown but it is likely that metabolic factors and diet play a more important role in the disturbance of the sebaceous glands than do fungi or bacteria. The eruption is characterized by appearing first on the scalp as a yellowish greasy type of scale, then spreading to other areas of the body. The skin under the scales then turns red and becomes weeping in character. The face, the eye-brows and upper and lower lips are usually involved, thereby distinguishing it from the atopic variety.

3. **Contact dermatitis (Dermatitis venenata, intertrigo).**

This eruption, while occurring anywhere on the body, is usually found where moisture, warmth and friction results in irritation, such as the folds of the neck, under the arms and between the legs. The buttock, the site of napkin dermatitis, is a result of infrequent changing and improper cleansing of the diapers. Here the eruption is usually acute and is characterized by redness and the formation of papulo-vesicles. One must distinguish this variety from syphilis.

4. **Infectious dermatoid dermatitis.**

This is secondary to an antecedent discharge or exudate such as running nose or ear, abscess, or scratching and irritation as a result of lice infection, a seborrhoeic or an atopic dermatitis. The eczema starts about the region of the infection and may remain circumscribed or, the skin becoming sensitized, it can rapidly spread so as to involve the entire body. It is an acute variety and is usually weeping in nature.

5. **Eczema as a result of microorganisms.**

From bacterial or fungus foci generalized eczematous eruptions may develop. These eruptions can be due to an extension of the original focus anywhere in the body or to an allergic response of the individual to the offending organism in which case they are known as bacterids, in the case of bacterial infections, or dematophytids, in the case of fungus infection. The one most frequently seen is that due to monilia (thrush), and may result in a generalized moniliasis, not only of the skin but of other organs, and can result in death.

6. **Nummular eczema (orbicular eczema).**

It gets its name from the characteristic well circumscribed red annular or oval patches surmounted by papules or papulo-vesicles and situated principally on the extremities, usually the dorsal aspects. While the cause of this type of eczema is unknown, it is probably a form of the atopic variety. It is noted for its remissions and exacerbations as well as its resistance to all forms of therapy.

7. **Combinations.**

Needless to say, combinations of any of the above can occur. While it is easy to diagnose the classical type, nevertheless, some cases baffle the most experienced dermatologist.

THERAPY

A. **General considerations.**

Under this heading one must take into consideration the parents as well as the child. It is best to inform the parents that the child's eruption is not contagious, that it will probably have exacerbations and remissions and barring secondary infection the skin will clear up, even in severe cases, without leaving a blemish. Flareups occur in lessening numbers as the children grow older. After puberty only a few of the more persistent cases will have recurrences. The infants are usually healthy in every other respect and by way of consoling the parents one might mention that the allergic type of child is usually the smart one in school.

B. **Diet.**

It is the fortunate physician who can eliminate one or more items from the infant's diet and thereby produce beneficial results. It is my experience that changing the child's diet is of little benefit and upsets both the child and the parent. Milk, egg and wheat are usually the offending allergens and good results are sometimes obtained by eliminating one or more of these. Unfortunately, however, sensitization to more than one food is common. Boiling the milk for three to five minutes or changing to mothers', cows', goats' or canned milk may prove helpful. Soybean oils are on the market and may be substituted in place of milk, always bearing in mind the possibility of a kidney or gastro-intestinal disturbance. The use of specific Propeptans taken forty-five minutes before the meal is extremely useful when the offending food allergen can be found. The incidence of eczema is lowest in breast fed babies; and so these babies should not be weaned, but one should ascertain what food the mother is eating and whether she is taking any medicine. Fish oils, or orange juice should be replaced with crystalline vitamines. Frequently the eczematous process is favorably influenced if fat babies are underfed or poorly nourished babies built up. Fortunately, most infants with food sensitivity out-grow this condition. An

attempt at desensitization or transforming an allergic child into a non-allergic child is futile so the majority of children obtain their best relief from local treatment.

C. **Skin Testing.**

In infants, I feel, skin testing is of doubtful value and this applies to foods as well as inhalants and contacts. The infant's skin does not respond to tests as does that of an adult; hence they are unreliable. One will find a child that gives a positive skin test to milk but can tolerate milk without a clinical flareup; and, again, a child showing a negative reaction can, on drinking milk, have exacerbations. Sensitivity to house dust and human dandruff must be suspected in the most resistant allergic cases.

D. **Specific therapy.**

Countless numbers of internal and external prescriptions are suggested in the treatment of these cases. Only a very few of the ones that have been found most satisfactory will be mentioned in this paper.

1. **Internal.**

Of the various internal remedies the only ones I will mention are those used in the atopic or nummular variety of eczema. The anti-histamine drugs now on the market are being used by most practitioners, and most cases of infantile eczemas have had a thorough tryout with them before reaching the dermatologist. Perhaps this is one reason why my results with these drugs have not been as encouraging as some physicians. Nevertheless, they are well worth a trial. The solutions such as elixir of benadryl or pyribenzamine are given in drams one-fourth to drams one-half doses three times a day, taken after meals. In cases of infectious eczematoid dermatitis and bacterial infections the internal use of sulfa drugs or penicillin is indicated in conjunction with external therapy. Sedation is seldom necessary and if so elixir alurate minims 10 to 20 or elixir of phenobarbital minims 5 to 15 in water may be used when needed.

2. **External.**

By all odds the most satisfactory results in treating infantile eczema are achieved by proper local care of the skin.

A most important consideration is the prevention of scratching. It is a well known fact that a night of scratching will undo a week of treatment, hence if the child's parents fail to cooperate it is necessary to hospitalize the patient. Methods used to prevent scratching are many. Tongue depressors or cardboard tubes slipped over the arm will prevent the infant from bending the elbow and getting at the irritated area. Mittens, masks, improvised strait jackets and pajamas with hands and feet which can be pinned to the mattress are other means of protection. One must also instruct the parents that they must not attempt to cleanse the skin before applying fresh medication as this merely results in more irritation.

The second important rule to follow in the external management of the skin is to treat the eczematous process rather than any specific condition or underlying cause. In the acute stage where there is weeping one may use:

1. **Wet compresses, or**
2. **A paste.**

Compresses consist of Burow's solution, made by adding 1 teaspoonful of aluminum acetate power to 1 pint of water or 2 per cent boric acid solution. They should not be allowed to dry; and by covering with cellophane or wax paper rapid evaporation can be prevented as well as wetting of the bed linen. They should be used until the acute phase has passed.

Of the various pastes, a tar paste is preferable. Salves are contra-indicated as they do not absorb moisture; and the serum oozing from the skin merely pushes up the salve, and so increases the irritation, while paste absorbs the moisture; and the medication is thus kept in direct contact with the skin. One of the best of these pastes is crude coal tar 5 per cent in Lassar's paste; another is Naftalan 10 per cent in Lassar's paste. This is best smeared directly to a strip of cotton material or mask and then applied to the skin. It is applied thickly and left in place 24 hours; at that time it is removed. Without attempting to cleanse the skin, fresh paste is then applied. This is continued until the process enters the sub-acute stage. The scalp is the only place where soap and water can be safely used, and here it may be utilized to remove crusts before the application of medication. Another method is to saturate a piece of cotton material with olive oil and place on the scalp for several hours, then wash the scalp, taking care to prevent the soap and water from coming in contact with the other areas. A salve such as sulphur precipitate 3 per cent in Neobase (Burroughs, Wellcome & Co.) rather than a paste, is applied at least twice a day and the scalp shampooed every other day. In cases or infectious eczematoid dermatitis, disregard the original lesion and treat as above until the irritation subsides and then treat the primary focus. If it is due to fungi, 2 per cent aqueous solution of gentian violet should be painted on once or twice a day, then dusted with talcum powder. In eczematous bacterial eruptions and in cases of secondary infection, penicillin ointment consisting of:

Penicillin, 30,000 units,
Neobase qs to oz. 1,

should be applied every three to four hours without covering these areas. In cases of napkin dermatitis it is important to instruct the mother to wash the diapers with soap and water, thoroughly rinse and then dip them in a solution of boric acid, using two teaspoons boric acid powder to the pint of water. Rubber panties are not to be worn.

In the sub-acute stage general cleansing once or twice a day with olive oil (or any vegetable oil in preference to mineral oil) or starch solution (using one cup of linit starch to the basin of warm water) is helpful and then a mildly stimulating lotion is applied several times a day without covering the parts. Such a lotion is as follows:

Phenol minims 30,
Liquor carbonis detergens drams 3,
Zinc oxide oz 2,
Glycerine drams 4,
Lime water oz. 1,
Rose water qs ad oz 8

If this proves too drying, the addition of olive oil to make an emulsion will prove beneficial. In cases which fail to respond after a period of five to six days change to Naftalan 3 per cent in Lassar's paste applied once daily and the parts covered with a piece of cotton cloth. In the seborrhoeic variety of eczema 3 per cent sulphur precipitate may be added to this lotion with or without the tar. In contact dermatitis the tar and sulphur both may be eliminated from the prescription and the lotion applied several times a day.

In the chronic stage a paste as mentioned above or salve such as:

Liquor carbonis detergens 5 per cent,
Lanolin,
Petrolatum,

should be applied twice a day. In the chronic seborrhoeic type sulfur precipitate 3 per cent may be substituted for the tar or the sulfur and tar may be used together. It is best, if the lesion is particularly chronic, to cover the medication with a piece of gauze or cotton material.

In all these cases, except for the scalp, soap and water is to be avoided; for, while this does not primarily cause the eczema, nevertheless it can be a great source of irritation. Similarly, wool and feathers, which can be a

(Continued on Page 228)

Reconstruction Of The Hand With Respect To Tendon Injuries*

By Dr. Robert Cochran, Fort Worth, Texas

It has been justly said, "It is more important to save the hand of a young workman than to operate for an extensive cancer in an old man." The successful surgery of traumatic wounds, especially of the hand, is far more exacting of judgment, skill and time than is elective surgery. However, the paradoxical disinterest of man in his hands must still remain a great mystery. It is a common observation that any person with an injured hand, because of the apparent emergency, will accept the services of anyone from the corner druggist with his mercurochrome and iodine to the neighboring physician.

The restoration of function to a hand seriously incapacitated by neglect calls for prolonged physical therapy, tension splinting, many stage operative procedures, patience and faith, to obtain improvement. In few fields of surgery do minor disturbances of wound healing interfere so seriously with the end results as in tendon repair. It is still an every day occurrence for this complex piece of surgery to be attempted in the emergency room or in a doctor's office. (1)

SURGICAL TREATMENT

It is not the purpose of this paper to deal with primary tendon repair, but rather to consider the surgical treatment of the severed tendons after the primary repair has yielded poor results.

No other field of surgery was given greater impetus in World War II than that of surgery of the hand. In this conflict there were over 15,000 injured hands, the majority of which eventually landed at one of the Hand Centers. In these centers, under the expert guidance of Dr. Bunnell, many hopelessly useless hands were restored to good functioning hands. Out of this there has been formed the American Society for Surgery of the Hand, and in this group we are interested in treating afflictions of the hand, and its reconstruction toward maximum usefulness following injury.

In reconstructing the injured hand certain definite principles must constantly be borne in mind, and these must be strictly adhered to if a desirable result is to be attained.

The first of these is to allow sufficient time to elapse from the date of healing before attempting reconstruction. This varies from two to four months, except where direct suture of the tendons is to be done. This must be accomplished not later than two months.

The second is to excise the cicatrix and replace with adequate skin coverage. This may be done by:

(a) Tubular pedicle graft.
(b) Direct pedicle flap.
(c) Free full thickness graft.
(d) Split thickness graft.

TYPE OF GRAFT

The type of graft to be used depends upon the extent of the skin loss, and also the structures to be covered.

After good skin has been supplied to the affected part, any bone carpentry that is necessary should next be done to insure a good bony framework. When this has been accomplished tendon and nerve repair can be done. In the lacerated finger in which both the volar digital nerves and tendons have been severed it is necessary to do a nerve repair, before attempting any repair of the tendons. I have seen numerous instances of this particular injury, in which both these structures have been severed, and no attempt whatever has been made to repair the nerves. It is the prevalent feeling, apparently, that the main thing to accomplish is to get the ends of the tendons sutured, regardless of how much damage is done to the hand. The end result is a finger, in which the skin is smooth and glistening, has no sensation, is atrophic and has no motion.

*—Read before the Meeting of the Texas Railway & Traumatic Surgical Association, San Antonio, Texas.

SECONDARY REPAIR

Secondary repair of tendons may be done by one or a combination of the following:

(1) Tenolysis with insertion of paratenon.
(2) Direct suture.
(3) Tendon graft.
(4) Tendon transfers.

Tenolysis may sometimes be done with good results by merely freeing and removing the cicatricial tissue, and interposing paratenon between the tendon and the bone, thus creating a gliding surface for the tendon. The paratenon is best obtained from the triceps muscle one and one half inches above the elbow, or from the outer surface of the deep fascia and fascia lata over the lower two thirds of the thigh.

Direct suture may be done in the palm, the wrist, the distal segment of the fingers, in the thumb, and, of course, all the extensor tendons, providing there has not been too great a length of tendon incorporated in the cicatricial tissue. As stated before, this method of repair must be done within two months of the injury. Direct suture, secondarily, in the proximal segment of the finger, and extreme distal portion of the palm is very unsatisfactory, and yields poor results. In these instances, it is almost always necessary to resort to tendon graft.

FREE GRAFTING

In the majority of cases of secondary tendon repair it is usually necessary to resort to free grafting instead of to direct suture, because it is rarely possible to draw the two parted ends together for suture without doing so under great tension. After a tendon has been nonfunctioning for many months, the degeneration of disease sets in and renders it unfit for repair. This applies especially to the distal end of a tendon and the curled up proximal end, but not to a tendon which has reattached and been under intermittent tension. Where a tendon is found to be rough and adherent, it is best to excise it completely and substitute in its place a free tendon graft. In placing the tendon graft, the pullout stainless steel wire suture of Bunnell, using No. 34 stainless steel wire, yields the best results in that no foreign body remains in the tendon. (2)

There are several sources of tendon grafts which may be enumerated as follows:

(1) Palmaris longus.
(2) Flexor digitorus sublimus.
(3) One or two long extensors can be taken from the dorsum of the hand.
(4) Long extensor tendons of the toes except that of the great toe.
(5) Strips of fascia lata or the triceps tendon.

TENDON TRANSFERS

In some instances of extensive hand injuries, tendon transfers are necessary. When such is necessary the following principles are essential:

(1) Correct the deformity. This cannot be accomplished by merely transferring tendon, but we must reshape bones and joints by osteotomies, capsulotomies, muscle stripping and correct contractures.

(2) The muscle of the transferred tendon must be red, healthy and adequate in size to carry on the muscle balance and the new motion desired.

(3) The transferred tendon should be placed in a bed through which it can glide, otherwise it will adhere.

(4) The transferred tendon should, when possible, pull in a straight line, and where a pulley is used the muscle should be sufficiently strong to compensate for the friction.

(5) The amplitude of motion of the transferred tendon should be sufficient to execute the motion desired. We should avoid attaching the transferred tendon to two tendons of different amplitudes of motion. (2)

CONCLUSION

Statistics of industrial acidents show that injuries and infections of the hand cause more loss of working time during the individual's productive years than any other single condition.

Surgery of the hand is still the most neglected field in surgery, and many, many hand injuries are still treated in hospital emergency rooms and doctors' offices. The old axiom still holds that: "The fate of the injured hand rests with the first doctor who treats it."

However, experiences gained at the Hand Centers during the last war have proved without doubt that many hopelessly injured hands can be restored to useful hands by proper reconstructive procedures, combining basic surgical fundamentals with plastic, orthopedic and neurologic surgery.

In few fields of surgery do minor disturbances of wound healing interfere so seriously with the end results as in tendon repair. Many times, even with scrupulous asepsis and atraumatic technique, adhesions will form, and cause a limitation of the motion of the affected digit. However, when such occurs, before evaluating disability, a further attempt should be made to restore function by one, or a combination of the methods described, namely:

(1) Tenolysis
(2) Direct suture
(3) Tendon graft
(4) Tendon transfers

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EL PASO TUMOR CLINIC

CASE NO. 370

Dr. Eidenoff—This patient, a white female, age 53, was referred to me because of history suggesting possible pelvic malignancy. Her story is that she first experienced pain in the lower abdomen about five months ago, which has grown progressively worse. In addition she noted a progressive weakness and loss of appetite. She gave no history of significant vaginal bleeding. When I examined her there were multiple hard tumors on the surface of the uterus. The cervix was red, hard and infiltrated and bled slightly to touch.

Dr. Boehler—The corpus is enlarged with some suggestion of invasion to the left side. The cervix is twice normal size with thickening and fullness extending into the right fornix. Rectal examination revealed the right side fixed, not frozen, but half of the wall fixed. Speculum examination showed a small amount of bleeding granulation tissue on the posterior lip. This is probably an endophytic type of cancer and could be easily missed. This also helps to explain the symptoms of pain, etcetera, with minimal bleeding. Biopsy would be necessary to rule out the possibility of syphilitic lesion. My impression is carcinoma of the cervix, stage three, League of Nations classification. We would like, in view of the invasion of the right side of the pelvic wall, to re-examine the patient in ten days after treatments are started. Much of this fullness may be due to infection.

Dr. Hart—A gross biopsy of the cervix was made and the specimen consisted of a dull, grayish red, granular fragment of tissue measuring 12 mm. in diameter. Microscopic examination shows irregular columns and strands of neoplastic cells supported by a delicate compact stroma. The tumor cells are growing in syncytium and show a slight tendency to whorl arrangement. Mitoses are relatively infrequent. The diagnosis is squamous cell carcinoma, Grade 2.

Dr. Fuchlow—Films of the chest show no pathology. Intravenous urogram reveals pyelectasis, Grade 2, right side and Grade 4 on the left side. The obstruction appears to be in the distal third of both ureters, probably due to the invasion of the malignancy. The blood picture is as follows: RBC—4,280,000; WBC—10,400; Hgb.—79 per cent; sedimentation rate—60 mm. in one hour. Papinicolaou stain reveals numerous malignant cells.

Dr. Prieto—I notice it is routine procedure to do intravenous urograms on all cases of carcinoma of the cervix. Here is one that you state has positive evidence of obstruction. Could Dr. Boehler or Dr. Gibson tell us if they would advise any form of specific treatment?

Dr. Boehler—We do not advise any specific treatment. We assume that in this case it is due to the invasion of the carcinoma, and any manipulation would be detrimental to our general problem in dissemination of the carcinoma. I think Dr. Fuchlow would agree that most of these cases, seen in this stage will be corrected by the preliminary external radiation. In fact, that is another of the reasons we prefer external radiation to precede any radium or intravaginal therapy.

Dr. Gibson—I quite agree that this is no time to attempt dilatation. In cases where the obstruction occurs some months after the treatments have been completed dilatation can be used for palliation only. We are not at all sure whether the obstruction is due to scarification or malignancy, but in either case when symptoms obtain we are justified in dilating these ureters and with the aid of chemotherapy and antibiotics control the infection. Dr. Fuchlow, is it your feeling that this obstruction is due to radiation therapy in cases some time after the radiation therapy is completed?

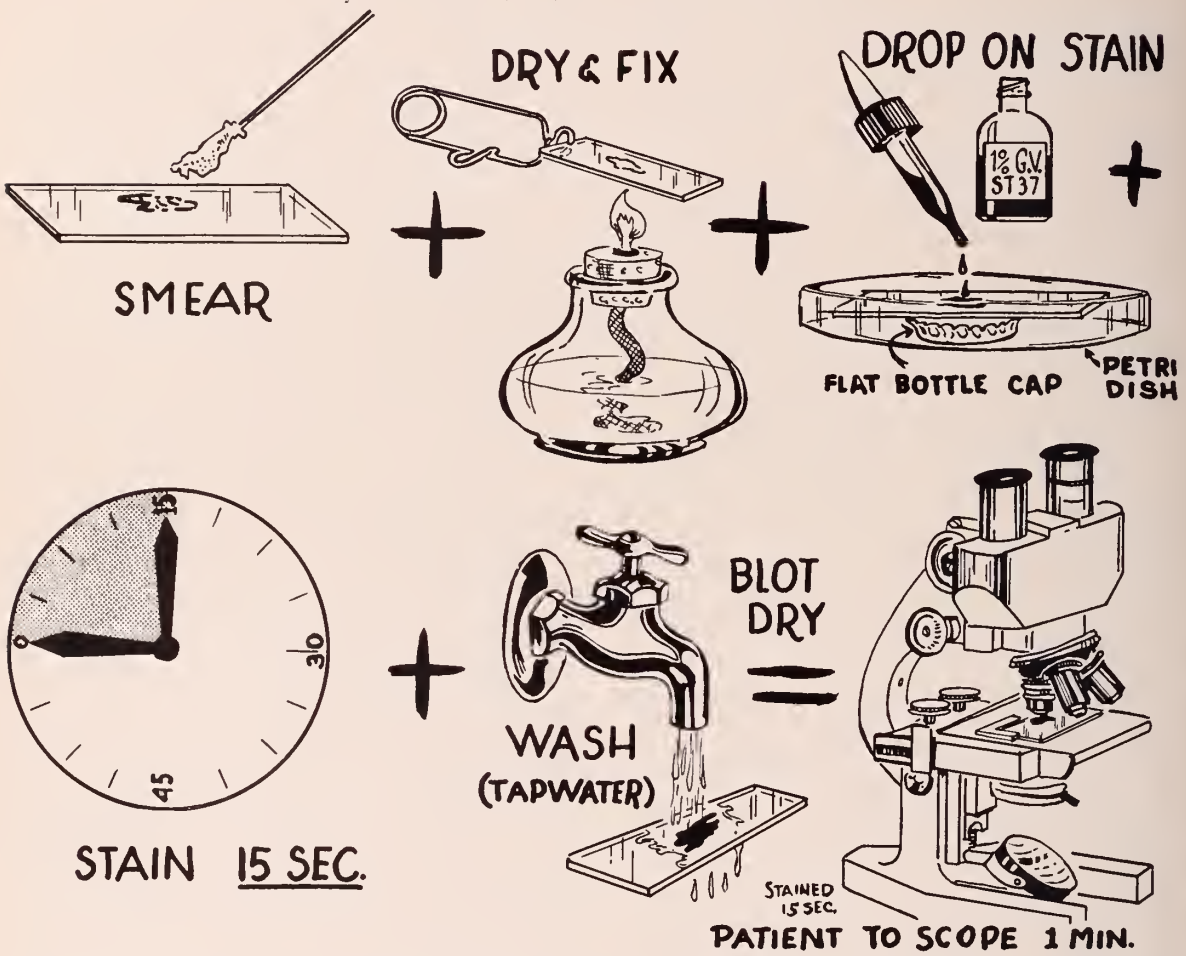
Dr. Fuchlow—Since it has been pretty well established that the obstruction usually occurs at the same level, at or near the pelvic brim, it is unlikely that the obstruction is due to damage to the ureters themselves. Whether it is due to the malignancy or radiation fibrosis is hard to determine. Either and both have been demonstrated at necropsies. At any rate, we feel that the cause of the obstruction is usually extrinsic.

Dr. Boehler—We have here a clinical Stage Three, Grade Two, squamous cell carcinoma of the cervix, the management of which is entirely radiological.

Dr. Fuchlow—The policy adopted by the clinic in this group of cases is external radiation to the pelvis to tolerance, to be followed by intravaginal cone therapy and/or radium. Here is a lesion arising in the endocervix, at least at the junction of the cervical os and evidently with extensive intra-uterine extension. Our procedure has been in Stage Three cases to use radium with intra-uterine applicators and colpostats. However, this decision would best be made at the completion of the external radiation series. At that time an examination by both the radiologist and gynecologist should reveal some, if not complete, restoration of the normal anatomy of the vaginal vault, which would help to determine which would be the best procedure.

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INFANTILE ECZEMA

(Continued from Page 225)

source of irritation as well as an etiological factor, should be kept from direct contact with the child.

X-ray should not be used in these young children, but ultra-violet radiation is sometimes beneficial and should be tried in the more persistent cases.

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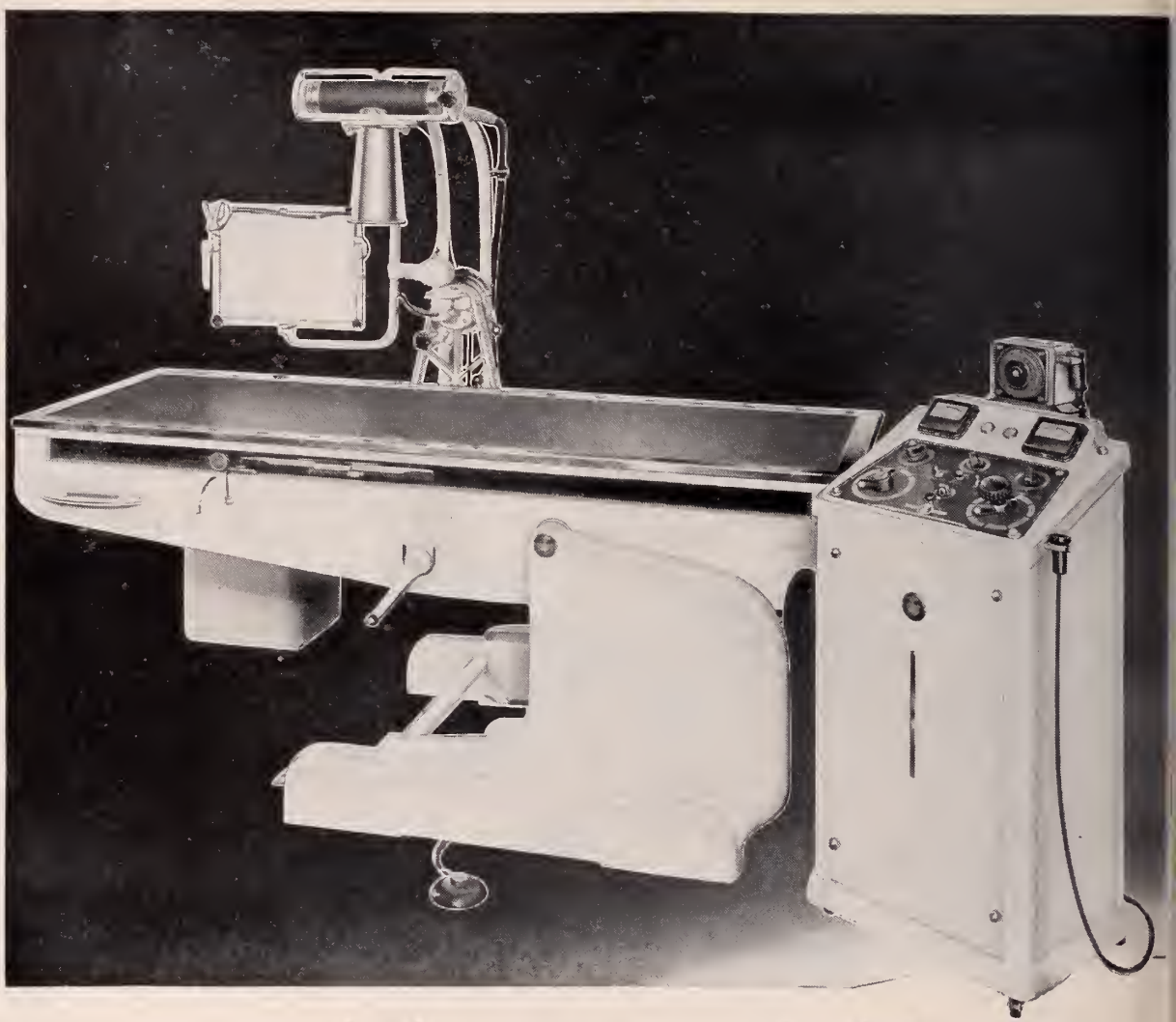
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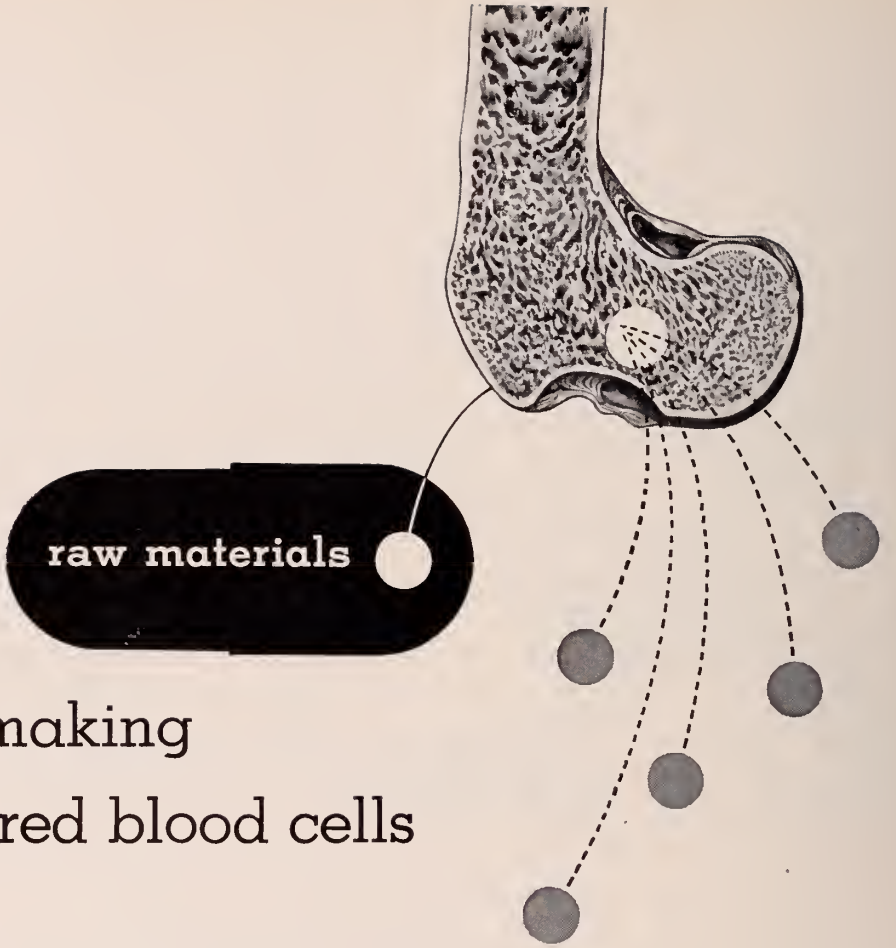
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SOUTHWESTERN MEDICAL ASSOCIATION CONFERENCE

Historic and beautiful Albuquerque extends an invitation to all physicians and their families to enjoy its perfect autumn, and at the same time to be brought in contact with the current medical thought of the country through the auspices of the joint meeting of the Southwestern Medical Association, and the New Mexico Division of the American Cancer Society.

While considerable parts of the country are cold and cloudy, Albuquerque has a great amount of sunshine. To those physicians not familiar with the city itself, points of historic interest will be, of course, greatly appreciated. Such structures as the Church of San Felipe de Neri, built in 1706, with adobe walls more than four feet thick, attract tourists' attention.

Excellent hotel facilities and tourist courts are available. However, it is to be anticipated that these facilities will be filled to capacity, and it is suggested that one make his reservations early. These reservations should be made by writing to A. H. Follingstad, M.D., care of Chamber of Commerce, Albuquerque, New Mexico. The city abounds with excellent restaurants. Albuquerque is the wholesale point and distribution center for a large area. Its shops are modern, and will be appreciated by the feminine contingent at the conference.

ENTERTAINMENT

"All work and no play makes Jack a dull boy", and the usual social events which are customary at such a meeting are planned. A stag party, banquet, etc., have been provided for. As for the "divot diggers," a golf tournament has been arranged to take place on Saturday afternoon. To climax the meeting, the football game between the University of Colorado, and the New Mexico Lobos will afford excitement and thrills. It is suggested that the request for tickets to this classic be sent to Dr. Follingsad, care of Albuquerque Chamber of Commerce. These reservations should be made early as these tickets are always in great demand.

The Women's Auxiliary of the Bernalillo County Medical Society has worked diligently to provide abundant entertainment for the doctors' wives, guests, and families, during their stay in Albuquerque. Tours of the nearby Indian Pueblos will be the order of the day. Teas, bridge parties, and a luncheon at one of the old Spanish homes will afford unique and interesting entertainment for all.

REGISTRATION

Registration at the meeting will be from seven to nine p.m. Tuesday, Nov. 8, and also Wednesday morning. However, the registration desk will continue its function throughout the entire meeting so that all latecomers can be adequately accommodated.

The following guest speakers will present the program:

KENNETH D. A. ALLEN, M.D., born 1889; graduated University of Pennsylvania 1916; Associate Professor of Radiology University of Colorado; President of the Rocky Mountain Radiological Society; Formerly Senior Consultant in Radiology U. S. Army, European Theater, World War II. He will talk on "Practical Considerations of Carcinoma of Cervix Uteri' 'and "'Scout' X-ray Study of the Abdomen. Its Value to a General Practitioner."

E. T. BELL, M.D., born 1880; graduated University of Missouri 1903; Professor and Head of the Department of Pathology, University of Minnesota 1920 to 1949, retired June 1949; Author of a Textbook of Pathology, now in its sixth edition; Author of a monograph of Renal Diseases; Many papers on renal diseases published; Research on diabetes now in progress. He will talk on "Experimental Production of Cancer" and "Pathology of Diabetes Mellitus."

ELMER BELT, M.D., born 1893; graduated University of California 1920; Attending Urologist: Hospital of the Good Samaritan, Los Angeles; Hollywood Presbyterian Hospital, Los Angeles; Cedars of Lebanon Hospital, Los Angeles; St. John's Hospital, Santa Monica; St. Francis' Hospital, Lynwood; Union Pacific Railway, Los Angeles. Consultant in Urology: Orange County Hospital; Ventura County Hospital; Children's Hospital, Los Angeles; Orthopaedic Hospital, Los Angeles; Physicians and Surgeons Hospital, Glendale. He will talk on "Radical Removal of the Bladder with Transplantation of the Ureters" and "Office Urology."

WILLIAM BOYD, M.D., born 1885; graduated University of Edinburgh, 1908; Professor of Pathology and Bacteriology, University of Toronto; Pathologist, Toronto General Hospital, Toronto, Ontario; World renowned author. He will speak on "The Spread of Tumors" and "Glomerulonephritis."

OTTO C. BRANTIGAN, M.D., born 1904; graduated Northwestern 1934; Professor of Clinical Surgery and Professor of Surgical Anatomy, University of Maryland School of Medicine; Chief of Thoracic Surgery, University Hospital, Baltimore, Maryland; Surgeon-in-Chief, Baltimore City Hospitals. He will speak on "Carcinoma of the Lung" and "The Surgical Treatment of Peptic Ulcers."

ALLAN M. BUTLER, M.D., born 1894; graduated Harvard, 1926; Professor of Pediatrics, Harvard Medical School, Boston, Mass.; Chairman, Council, American Pediatric Society; Vice-Chairman, Physicians Forum; Vice-Chairman, Committee for the Improvement of Medical Care, Inc.; Member of Editorial Board, **Pediatrics, Quarterly Views of Pediatrics, Advances in Pediatrics, Annual Review of Medicine.** He will talk on "Parenteral Fluid Therapy" and "Diabetes."

HERBERT WILLY MEYER, M.D., born 1896; graduated Columbia; Professor of Clinical Surgery, Post-Graduate Medical School, New York University, Bellevue Medical Center; Visiting Surgeon, Fourth Surgical Division, Bellevue Hospital, New York; Associate Attending Surgeon, Lenox Hill Hospital, New York. He will talk on "Cancer of the Breast," "Diaphragmatic Hernia", and "Perforations of the G. I. Tract."

EVANS W. PERNOKIS, M.D., born 1898; graduated Harvard Medical School 1923; Associate Professor of Medicine, University of Illinois Medical School; Attending Physician of Presbyterian Hospital, Chicago; Attending Physician of Cook County Hospital, Chicago. He will speak on "Leukemia" and "The Treatment of the Anemias."

DONALD M. PILLSBURY, M.D., born 1902; graduated Nebraska 1926; Professor of Dermatology and Syphilology, School of Medicine, University of Pennsylvania; Dermatologist to the Hospital of the University of Pennsylvania, the Children's Hospital of Philadelphia, the Bryn Mawr Hospital; Member of the Syphilis Study Section, of the National Institutes of Health; Member-at-Large of the Section on Clinical Investigations of the Committee on Growth of the National Research Council.

SPEAKERS AT S.W.M.A. CONFERENCE



DR. ALLEN



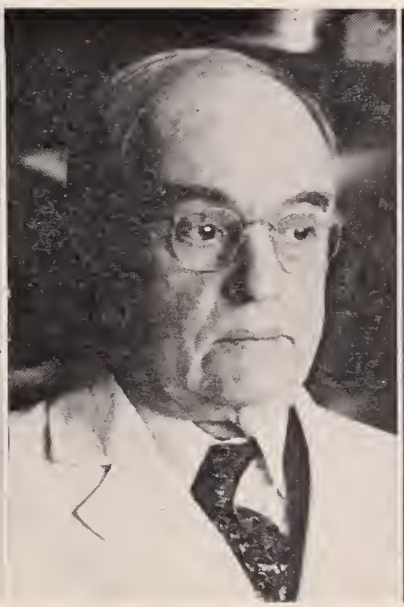
DR. BELL



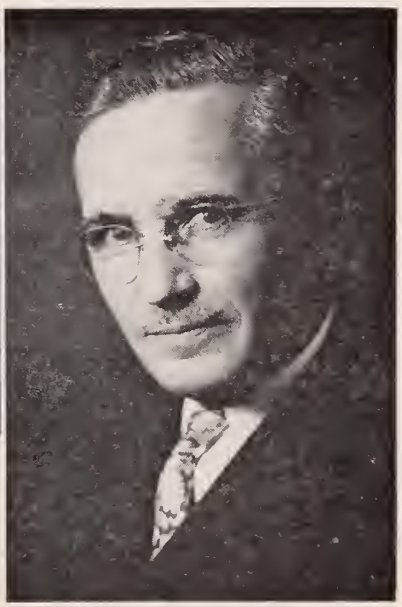
DR. BELT



DR. BOYD



DR. BRANTIGAN



DR. BUTLER

WILLIAM A. H. RETTBERG, M.D., born 1907; graduated University of Colorado 1935; Assistant Professor of Medicine, University of Colorado School of Medicine; Director of Hematology, University of Colorado Medical Center. He will speak on "Indications for Antibiotics."

HERBERT F. TRAUT, M.D., born 1894; graduated Johns Hopkins 1923; Professor and Chairman of Department of Obstetrics and Gynecology, University of California Medical School; Consulting Obstretician and Gynecologist, San Francisco Hospital; Visiting Gynecologist, Laguna Honda Home, San Francisco; Consulting Obstetrician and Gynecologist, Langley Porter Clinic, San Francisco. He will speak on "The Use of the Vaginal Smear in General Gynecological Diagnosis" and "Bleeding in the Third Stage of Labor."

SPEAKERS AT S.W.M.A. CONFERENCE



DR. MEYER



DR. PERNOKIS

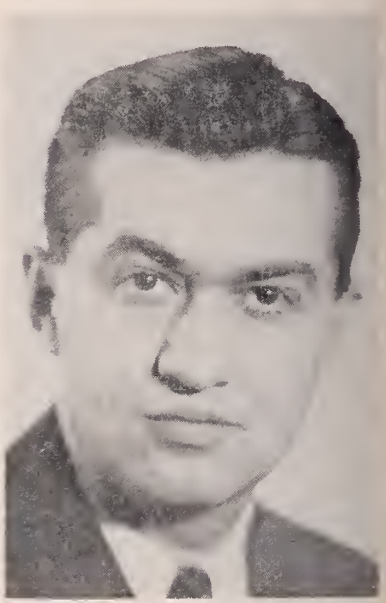


DR. PILLSBURY



DR. RETTBERG

The Speakers For The Academy of Otolaryngology and Opthalmology Will Be Announced Later.



DR. TRAUT

The first one and one-half days of the program are given under the sponsorship of the New Mexico Division of the American Cancer Society. This organization has not only been generous with its financial support, but has also brought eminent speakers, interested in the pathogenesis of neoplastic disease which contributes greatly towards making the present meeting of the Southwestern Medical Association in all probability the largest and most successful it has even been since its inception.

The Southwestern Medical Association, through its official organ, SOUTHWESTERN MEDICINE, wishes to thank the New Mexico Division of the American Cancer Society for its splendid assistance, and it is joined in this felicitation by the members of the Bernalillo County Medical Society who wish to express publicly their thanks for the sincere and kind cooperation of the above mentioned society.

ROUND-TABLE LUNCHEONS

During the noon recesses, there will be Round-Table Luncheons held in the private dining rooms of three of the Albuquerque Hotels. At these luncheons, visiting physicians will be given an opportunity to put questions to the guest speakers. Attendance at these luncheons will be limited to the seating capacity of the various dining rooms; and for this reason, tickets must be purchased in advance at the Conference registration desk in the Hilton Hotel at the time the visitor registers for the Conference.

At these luncheons, it is expected that there will be three guest speakers. On the different days, it will be arranged so that none of the guest speakers will appear together more than one time.

OFFICIAL CALL

To the Officers and Members of the Southwestern Medical Association Conference:

At 8 a. m., Saturday, Nov., 12, there will be a business meeting of the Southwestern Medical Association Conference. The purpose of this meeting will be to elect the new officers and to transact such other business as may be deemed necessary.

The members of the Bernalillo County Medical Society and the physicians of Albuquerque have labored diligently to provide an able scientific program, and superior entertainment for all at the coming conference. There can be no doubt that all who attend this meeting will profit by it, both professionally and socially. SOUTHWESTERN MEDICINE urges all its readers to attend this meeting, and don't forget to bring the ladies. It is also urged that all persons interested register early so that those responsible for this conference may be able to anticipate the number who will attend and in that way facilitate their method of handling. it is especially important to the medical profession at this time that the profession present a united front. Let's exhibit this unification by attending the Southwestern Medical Conference, November 9th, 10th, 11th, and 12th, 1949, in Albuquerque, New Mexico.

Sierra County Medical Meeting

The Sierra County Medical Society met Sept. 20 with Dr. and Mrs. H. B. Johnson. The auxiliary held a separate meeting at the same time. Mrs. Johnson and auxiliary members served a delicious baked ham dinner.

Dr. W. White was elected as a new member of the Society. Dr. Johnson read a scientific paper on rheumatic fever.

Those attending were Dr. A. C. White, Dr. and Mrs. W. B. Cantrell, Dr. and Mrs. T. B. Williams, Dr. and Mrs. R. M. Fulwider, Dr. and Mrs. E. E. Hubble, and Dr. and Mrs. W. L. Minear.

We have recently seen three cases of virus pneumonia recover rapidly with aureomycin therapy. Expensive, yes; but about 10 per cent of the cheapest funeral available these days.

Unusually Fine Exhibits At S. W. M. A. Conference

An unusually fine and varied group of pharmaceutical, surgical, and commercial displays are already assured for the Conference of the Southwestern Medical Association which will be held in Albuquerque, November 9-12.

It must be remembered that these exhibits play an extremely important part in the success of any conference. Many of these exhibitors have contributed financially and have worked hand in hand with the medical profession in its controversy regarding the socialization of medicine.

Many new products will be exhibited. The medical profession will receive kind and courteous attention from the exhibitors. Let us reciprocate in the same manner and visit the exhibits and remember that these exhibits are an integral part of the Conference.

A partial list of the exhibitors is:

G. W. Carnrick Co., Newark, New Jersey.
E. R .Squibb & Sons, Long Island City, N. Y.
C. B. Fleet Co., Lynchburg, Virginia.
G. D. Searle & Co., Chicago, Illinois.
Ciba Pharmaceutical Products, Inc., Summit, New Jersey.
Mead Johnson & Co., Evansville, Indiana.
Mission Pharmacal Company, San Antonio, Texas.
W. B. Saunders Co., Philadelphia, Pa.
Lanteen Medical Laboratories, Inc., Chicago, Ill.
Eli Lilly & Co., Indianapolis, Indiana.
A. H. Robbins Co., Richmond, Virginia.
Schering Corporation, Bloomfield, New Jersey.
Bilhuber-Knoll Corporation, Orange, New Jersey.
Don Baxter, Inc., Glendale, Calif.
A. S. Aloe Co., St. Louis, Missouri.
Maico Hearing Aid, Phoenix, Arizona.
Blair Surgical Supply Co., Inc., Tucson, Arizona.
Sandoz Chemical Works, Inc., San Francisco, California.
General Electric X-Ray Corporation, Dallas, Texas.
The J. Durbin Surgical Supply Co., Denver, Colo.

Clinical Observations On The Use Of Dibutoline

"Dibutoline, possessing both a smooth muscle inhibiting and an antiacetylcholine action, has been employed as the sole therapeutic agent or as an adjuvant in the treatment of smooth muscle spasm associated with 12 types of disorders of the gastrointestinal tract, 2 of the biliary tract and 5 of the genitourinary system. The results have been most favorable with the exception of the treatment of gastric crisis associated with tabes.

"The drug has proved useful in combating spasm of the upper gastrointestinal tract and the colon during the course of x-ray examination.

"Side effects of dibutoline have been mainly moderate dryness of the mouth and slight diminution of ocular accommodation following the usual 10- to 20-mg. subcutaneous dosage.

"The drug has proved exceedingly useful when a prompt, powerful antispasmodic agent is indicated. The short duration of its action and its ineffectiveness orally limit its usefulness."—Marquardt, G. H., Case, J. T., Cummins, Jr., G. M., and Grossman, M. I., Am. J. M. Sc. 216:203, 1948.

TENTATIVE PROGRAM
SOUTHWESTERN MEDICAL ASSOCIATION CONFERENCE

Albuquerque, New Mexico

November 9, 10, 11, 12

WEDNESDAY, NOVEMBER 9

Dr. Joseph Greer, Presiding.

8:00 A.M.-10:00 A.M. Registration

10:00 A.M.-10:15 A.M. Welcome by President, New Mexico State Medical Society—J. W. Hannett, M.D.

10:15 A.M.-10:30 A.M. Response by Dr. Joseph Greer, President, Southwestern Medical Association.

10:30 A.M.-11:00 A.M. "Cancer of the Breast"—Herbert Willy Meyer, M.D.

11:00 A.M.-11:15 A.M. Discussion

11:15 A.M.-12:00 M. Intermission to visit exhibits

12:00 M. - 2:00 P.M. Luncheon — Round Table Discussion

Dr. J. W. Hannett, Presiding

2:00 P.M.- 2:30 P.M. Paper by Donald M. Pillsbury, M.D.

2:30 P.M.-2:40 P.M. Discussion

2:40 P.M.- 2:50 P.M. Intermission to visit exhibits

2:50 P.M.-3:20 P.M. "Experimental Production of Cancer"—E. T. Bell, M.D.

3:20 P.M.- 3:30 P.M. Discussion

3:30 P.M.- 3:40 P.M. Intermission to visit exhibits

3:40 P.M.- 4:10 P.M. "Practical Considerations of Carcinoma of Cervix Uteri"—Kenneth D. A. Allen, M.D.

4:10 P.M.- 4:20 P.M. Discussion

4:20 P.M.- 4:30 P.M. Intermission to visit exhibits

4:30- 5:00 P.M. "Carcinoma of the Lung"—Otto C. Brantigan, M.D.

8:00 P.M. Speech by Representative of American Cancer Society.

THURSDAY, NOVEMBER 10

Dr. H. C. Jernigan, Presiding

9:00 A.M.- 9:30 A.M. "The Spread of Tumors" — William Boyd, M.D.

9:30 A.M.- 9:40 A.M. Discussion

9:40 A.M.- 9:50 A.M. Intermission to visit exhibits

9:50 A.M.-10:20 A.M. "Leukemia"—Evans W. Pernokis, M.D.

10:20 A.M.-10:30 A.M. Discussion

10:30 A.M.-10:40 A.M. Intermission to visit exhibits

10:40 A.M.-11:20 A.M. "The Use of the Vaginal Smear in Gynecological Diagnosis"—Herbert F. Traut, M.D.

11:20 A.M.-11:30 A.M. Discussion

11:30 A.M.-12:00 M. Intermission to visit exhibits

12:00 M.- 1:40 P.M. Luncheon—Round Table Discussions

Dr. H. L. Bass, Presiding

2:00 P.M.-2:30 P.M. "Glomerulonephritis" — William Boyd, M.D.

2:30 P.M.-2:40 P.M. Discussion

2:40 P.M.-2:50 P.M. Intermission to visit exhibits

2:50 P.M.-3:20 P.M. "Office Urology" — Elmer Belt, M.D.

3:20 P.M.-3:30 P.M. Discussion

3:30 P.M.-3:40 P.M. Intermission to visit exhibits

3:40 P.M.-4:10 P.M. "Diaphragmatic Hernia" — Herbert Willy Meyer, M.D.

4:10 P.M.-4:20 P.M. Discussion

4:20 P.M.-4:30 P.M. Intermission to visit exhibits

4:30 P.M.-5:00 P.M. Paper by Donald M. Pillsbury, M.D.

7:00 P.M. Stag Party—Albuquerque Country Club.

FRIDAY, NOVEMBER 11

Dr. Joseph Banks, Presiding

9:00 A.M.-9:30 A.M. "Parenternal Fluid Therapy"—Allan M. Butler, M. D.

9:30 A.M.-9:40 A.M. Discussion

9:40 A.M.-9:50 A.M. Intermission to visit exhibits

9:50 A.M.-1020 A.M. "The Treatment of the Anemias"—Evans W. Pernokis, M.D.

10:20 A.M.-10:30 A.M. Discussion

10:30 A.M.-10:40 A.M. Intermission to visit exhibits

10:40 A.M.-11:20 A.M. "Perforations of the G. I. Tract"—Herbert Willy Meyer, M.D.

11:20 A.M.-11:30 A.M. Discussion

11:30 A.M.-12:00 M. Intermission to visit exhibits

12:00 M.-1:40 P.M. Luncheon—Round Table Discussions

Dr. W. E. Vandevere, Presiding

2:00 P.M.-2:30 P.M. "'Scout' X-ray Study of the Abdomen. Its Value to a General Practitioner"—Kenneth D. A. Allen, M.D.

2:30 P.M.-2:40 P.M. Discussion

2:40 P.M.-2:50 P.M. Intermission to visit exhibits

2:50 P.M.-3:20 P.M. "Bleeding in the Third Stage of Labor"—Herbert F. Traut, M.D.

3:20 P.M.-3:30 P.M. Discussion

3:30 P.M.-3:40 P.M. Intermission to visit exhibits

3:40 P.M.-4:10 P.M. "The Surgical Treatment of Peptic Ulcer"—Otto C. Brantigan, M.D.

4:10 P.M.-4:20 P.M. Discussion

4:20 P.M.-4:30 P.M. Intermission to visit exhibits

4:30 P.M.-5:00 P.M. "Pathology of Diabetes Mellitus" —E. T. Bell, M.D.

SATURDAY, NOVEMBER 12

Dr. I. J. Marshall, Presiding

8:00 A.M.-9:00 A.M. Business Meeting of Southwest Medical Association.

9:00 A.M.-9:30 A.M. "Indications for Antibiotics" — William A. H. Rettberg, M.D.

9:30 A.M.-9:40 A.M. Discussion

9:40 A.M.-9:50 A.M. Intermission to visit exhibits

9:50 A.M.-10:20 A.M. "Radical Removal of the Bladder with Transplantation of the Ureters"—Elmer Belt, M.D.

10:20 A.M.-10:30 A.M. Discussion

10:30 A.M.-10:40 A.M. Intermission to visit exhibits

10:40 A.M.-11:20 A.M. "Diabetes"—Allan M. Butler, M.D.

11:20 A.M.-11:30 A.M. Discussion

2:00 P.M. Football game—Colorado vs. University of New Mexico.

THE INSTRUCTION OF THE DIABETIC PATIENT

By Branch Craige, M.D., El Paso, Texas.



Drawn by ERNEST CRAIGE, M.D., Teaching Fellow, Harvard Medical School; Department of Cardiology, Massachusetts General Hospital.

The instructions given the diabetic patient should be carefully planned and cautiously worded. The physician must avoid both the hazards of unduly frightening the patient, and of failing to impress him with the necessity for careful control of his disease. He must direct the patient between overzealousness and undue laxity in diabetic hygiene. Finally, he should try to make the requirements on the patient's time and attention as simple as is consistent with satisfactory control.

No physician would describe to an arteriosclerotic patient all the catastrophies that might befall him should one or another of his diseased arteries thrombose or rupture. The young woman with compensated rheumatic heart disease is advised to consult her physician regularly and to report at once a febrile illness or shortness of breath or chest pain. But one would hesitate to tell her that her life expectancy is matrially reduced, that she might die of bacterial endocarditis, pulmonary embolism, or congestive failure.

PATIENTS ALARMED

On the other hand, many physicians will purposely frighten patients with the dangers of diabetics. Some prescribe text books [1,2], journals [3], and hospitalization "in contact with other diabetics, seeing patients with gangrene, a patient with a carbuncle, perhaps another with diabetic coma or in hypoglycemia . . . to instill a knowledge of what diabetes really is" [4].

The purpose of this paper is not to discuss the regulation of diabetes, but to consider what the patient needs to know to take good care of himself.

Patients vary in the way that they react to psychic trauma. One patient may read a manual for diabetics without anxiety, because he does not comprehend the subject matter. Another may be so phlegmatic as not

to be disturbed by the description of disastrous complications. A third may have his management seriously complicated by an anxiety neurosis. He reads of disastrous complications; he is dismayed at seeing numerous pages of charts and food tables; and he is frustrated by a prescribed inflexible routine.

GOAL DEFINED

The goal of satisfactory therapy in diabetes, as in most other diseases, should be that the patient live as nearly a normal life as is possible. This means not only that his physical condition be normal, but also that he be undisturbed emotionally. To this end, the instructions ought to be as simple as possible. They should not be alarming; and the patient must leave the office with the realization that, even though he has diabetes, he can still lead a normal life with little hazard, and only slight inconvenience. Directions should be given verbally, and the patient then furnished a few simple pages which repeat the same information for his study at home.

The categories of information to be covered are as follows: 1) diet; 2) technique of collecting and testing the urine; 3) use of insulin (if required); 4) hygienic principles to avoid complications; and 5) recognition of the danger signals of complications, and what to do about them.

Unless the patient is in moderate to severe acidosis, these instructions can all be given in office visits, and hospitalization is unnecessary. In fact, regulation of the ambulatory diabetic is much more satisfactory; hospitalization changes the patient's exercise habits, and upon his return to his usual occupation, re-regulation becomes necessary [5].

FIRST STEP

The first step is to teach a diet. The diet ought to be one that is as easy to follow as possible, and requires little calculating on the patient's part. It should be adapted insofar as possible to the patient's food habits and desires. The weighing of foods may be avoided. Weighing implies greater accuracy than it is actually possible to obtain, for there are always significant variations in the water content of foods. Furthermore, variations due to differences in seed, soil, climatic conditions and methods of cooking are so great that weighing the prepared product is an unnecessary refinement. There is no reason why household measures cannot be used in lieu of weights. With such measures the patient is already familiar. The brief, simple and satisfactory diets described by Caso and Stare [6] are quickly computed by the physician, and easily followed by the patient. They allow wide latitude in choice of foods, being adaptable to the patient's taste, his pocketbook, and the availability of foods in the market.

The second step in the education of the patient, is the technique of urinalysis for sugar. A test that is simply done is more likely to be performed by the patient. The author recommends the Clinitest outfit [7] in place of Benedict's solution and boiling. The time and frequency of urinalysis is for the physician to decide, and will vary with the case.

TECHNIQUE TAUGHT

The patient who requires insulin needs to be taught the technique of giving himself a hypodermic injection, and caring for the needle and syringe. He must become familiar with the measurement of his dose of insulin, using the standard U40 or U80 syringe. The physician should make sure that this maneuver is well understood. The syringe and needle may be rinsed in water and 70 per cent ethyl or propyl alcohol and then kept suspended by a string in alcohol in a large corked test tube or water-tight metal container [8]. The time and inconvenience of sterilization by boiling may thus be eliminated. The adjustment of insulin dosage should be made by the physician at first, but the patient may gradually be taught to regulate the dose himself, using the urines as a guide, changing dosage not too frequently or too abruptly, and conferring periodically with his physician.

EMPHASIS VARIES

The emphasis on the various principles of hygiene will vary from patient to patient. Foot care, for example, will be much more important in older patients without palpable pulsations in the feet; than it is in the younger patient whose circulation may be excellent. General hygienic principles include the prevention or elimination of obesity; the avoidance of, and careful treatment of infection, no matter how trivial; the use of moderate exercise; the avoidance of excessive fatigue; and the meticulous care of the feet and toenails. Strict continuity in the diet and insulin program must, of course, be made quite clear, and the need for periodic medical supervision emphasized.

With regard to the complications of diabetes, only the bare outlines need be given. The author deplores the detailed and harrowing discussions of gangrene and blindness, tuberculosis and carbuncle, not to mention coma and insulin shock presented in some manuals.

INSULIN REACTIONS

The patient should be told that overdosage of insulin may produce insulin reactions, manifested at first, usually, by symptoms of coldness, nervousness, or headache. Such reactions must be promptly relieved by taking any available carbohydrate, preferably sugar or orange juice. The patient using insulin should always have a lump or two of sugar in his pocket for such an emergency. The patient must clearly understand that the persistence of heavy glycosuria, unusual thirst, excessive urination and drowsiness are danger signs; that vomiting or diarrhea may lead to acidosis; and that infections and accidents aggravate diabetes. Whenever any such signs or complications occur, the physician must be promptly consulted before more dangerous consequences ensue.

The diabetic patient is also advised to carry some means of identification stating that he has diabetes, so that, in case of severe insulin reaction or diabetic acidosis, medical care may be obtained without delay.

SUMMARY

The instruction given the diabetic patient should follow the same principles of encouragement, reassurance, and optimism that are accepted procedures in the management of other chronic medical diseases.

Diets should be easily calculated, using household measures, and allowing a wide latitude of choice of foods.

The techniques of urine testing and insulin administration should be the simplest available. Principles of diabetic hygiene should be understood.

The patient must learn the signs which warn of im-

(Continued on Page 256)

LAMINAGRAPHY

By Vincent M. Ravel, M.D., El Paso, Texas

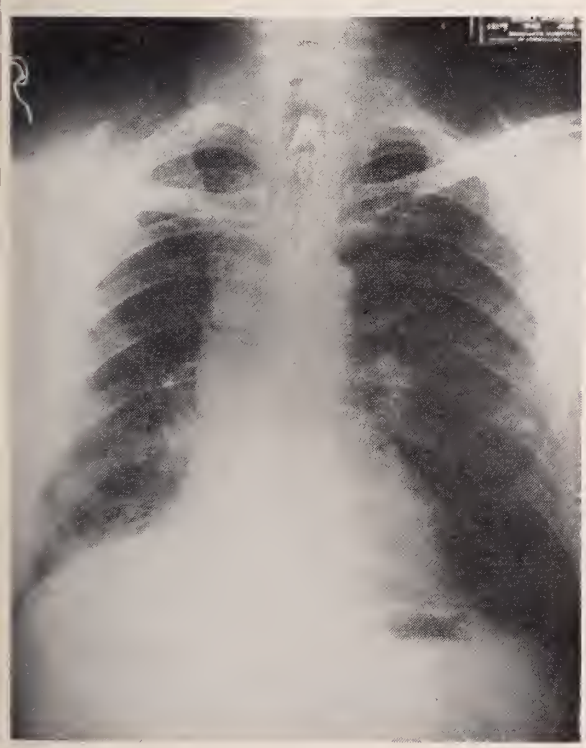
Laminagraphy is a radiologic procedure whereby lesions may be demonstrated on films by obscuring underlying or overlying structures while keeping the lesion in relatively sharp focus.

Historically Bocage first described the principles involved as applied to radiology in 1917. In this country Kieffer working independently and using the same principles applied for a patent in 1929.

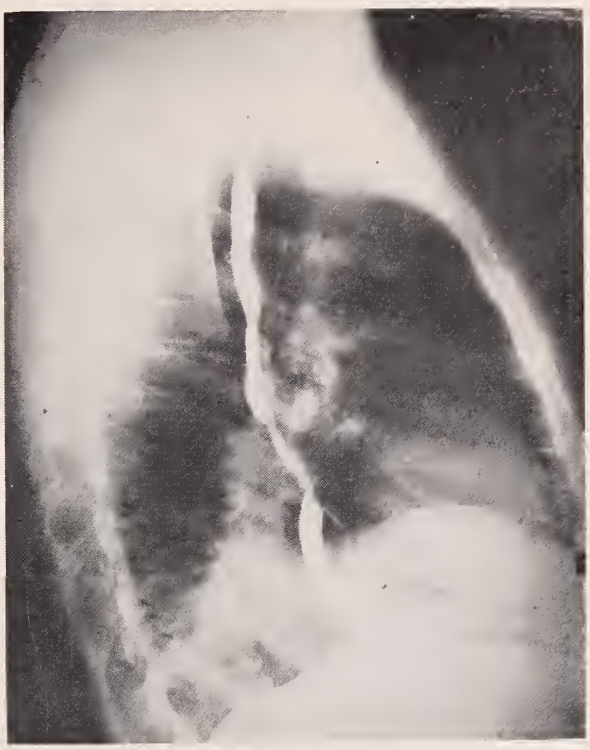
The procedure has many synonyms. Planigraphy, tomography, body section radiography, and stratigraphy are the more commonly used terms. Laminagrams, planigrams, tomograms, stratigrams are terms used for the films obtained by the above method.

The principle involved is based on optical and mathematical considerations whereby an object that maintains a constant relationship to a moving source of light, and a moving film will remain in focus, whereby the objects which do not maintain that relationship will be out of focus.

If an ordinary camera is in motion while an exposure is made, the resulting image will be blurred. If an exposure is made from a moving automobile the background will also be blurred. However, if two automobiles are moving parallel at the same rate of speed and a picture is taken of one car from the other, the second car will be in sharp focus while the background will appear blurred. The reason the second car is sharply reproduced even though it is in motion is because it is relatively stationary to the camera. If a camera is revolved about a fixed circular object, such as a telephone pole, and an exposure is made while the camera is moving in an arc, the pole will be in focus while the background will appear blurred. Any arrangement whereby the x-ray tube and the film can be moved about a fixed plane will permit a reproduction of the plane to the relative exclusion of other planes above and below. The same result could be obtained by keeping the tube and film stationary and rotating the part to be examined. The usual arrangement is to move the tube in one direction and the film in the opposite direction.



CASE I, FIG. 1



CASE I, FIG. 2

The clinical applications are numerous. It must be remembered that the method is always supplementary to the conventional studies. When indicated it offers an invaluable aid to discovering and analysing anatomical changes which otherwise would be difficult or impossible to demonstrate. The most frequent use has been made in chest examinations where overlying bony structures or thickened pleura preclude an accurate evaluation of a lesion.

Case No. 1 revealed on the conventional films reproduced here* an area of atalectasis in the right lower lobe. A laminogram, Fig. 3, reveals a distinctive soft tissue mass producing occlusion of a branch of the right

mainstem bronchus. This patient was broncoscoped, and a biopsy of the mass revealed bronchogenic carcinoma.

Case No. 2 was that of a patient with traumatic history of the upper dorsal region and which conventional roentgenograms revealed no evidence of fracture. By sectioning through this region a fracture of the dorsal process of D 1 was revealed. Operation subsequently confirmed an un-united fragment of bone which was removed.

By means of this technique many other ill defined lesions may be satisfactorily demonstrated. It has been used in the examination of the skull, urography (to obscure interefering gas shadows), extremities, and parts encased in opaque heavy retentive dressings.

The radiologist in his constant search to demonstrate objectively anatomical changes of value in establishing a diagnosis has by the above means another adjunct which when indicated may be of invaluable assistance to the arriving at an accurate diagnosis.



CASE I, FIG. 3

*Courtesy of Dr. Arthur Finkelstein, Director Department of Radiology, Graduate Hospital, Philadelphia, Penn.

The Vocation Of Medicine

"I believe that those people who possess what is called a 'clinical sense' really owe it to these two facts; they make many observations of which they are unconscious, and they effect a synthesis of those observations that are causatively associated. At the same time they are able to discard those that do not possess these characters. Herein lies the nearest explanation I can give of the mental process involved in diagnosis."Lord Horder, **Lancet** 255:715 (Nov. 6), 1948.



Slightly retouched for purposes of reproduction.

CASE II, FIG 1.

Cancer Monographs Now Being Distributed

A series of color-illustrated monographs on the early diagnosis of cancer, prepared by some of the nation's leading surgeons and scientists and published by the American Cancer Society, are now being distributed free to 682 Texas physicians.

The first two of the series have already been distributed. Four more are now being prepared, reports J. Louis Neff, executive director of the American Cancer Society, Texas Division.

Mr. Neff said that the monographs are available to any physician who will drop a postcard with his name and address to the American Cancer Society, Texas Division, 2307 Helena Street, Houston 6, Texas. In this way he will be placed on a mailing list to receive all successive brochures.

The monographs now being prepared and their mailing dates are:

1. The DIAGNOSIS OF GENITO-URINARY TUMORS by Dr. Victor F. Marshall—September, 1949.
2. The VALUE OF EARLY DIAGNOSIS IN MALIGNANT LYMPHOMAS AND LEUKEMIA By Dr. Lloyd F. Craver—December , 1949.
3. THE EARLY DIAGNOSIS OF BREAST CANCER By Dr. Cushman D. Haagensen—March, 1950.
4. CANCER OF THE LUNG By Dr. Richard H. Overhold—June 1950.

The monographs are from 75 to 100 pages in length, well illustrated and specific in their detailed descriptions.

PROCEEDINGS OF THE EL PASO TUMOR CLINIC

CASE PRESENTATION—No. 376

This man is 36 years old, and in-so-far as one is able to ascertain he was active, worked as a ranch hand, and performed his usual duties without essentially any generalized headache with very definite neck pain. This pain radiated to the occiput. He became progressively weaker. This weakness progressed to the point that he was unable to do any type of work. Concurrent with this, he noticed a slowly progressive diminution of his vision. At the present time his chief complaint is essentially headache, neck pain, failing vision, and severe generalized weakness.

His physical examination otherwise than the rather definite acromegalic bone formation of the face, plus the spade-like hands, was essentially negative. The heart and lungs were found to be within normal limits. His blood pressure was 142/84. Examination of his abdomen was unrevealing. His peripheral vascular system was found to be within normal limits; and the neuromuscular examination was unrevealing.

Laboratory findings were as follows:

A four lead electrocardiogram is read as follows:
Rate: 126 PR Int: .15 sec.
Sinus tachycardia Normal P waves
QRS measures .08 sec. Tendency to low voltage; normal axis. T-1 upright, shallow; T-2, T-3 upright; Leads CF-2, 4, and 5 are considered to be within normal limits.
Interpretation: Normal electrocardiogram.

CBC: RBC—3,460,000 Polys—70 per cent
Hgb—82.3 pct. 14.0 gm. Lymphs—28 per cent
WBC—7,300 Monos—1 per cent
Eosins—1 per cent

SED. RATE:
15 min-11 mm. Blood Cholesterol: 333 mgms/100 cc.
30 min-28 mm. Blood Sugar: 141 mgms/100 cc.
45 min-38 mm. Test for Antiduretic Hormone—Positive
60 min-52 mm. Test for Gondatropic Hormone: Negative

BASAL METABOLIC RATE:
Plus 9 KAHN & EAGLE: Negative

GLUCOSE TOLERANCE TEST:

	Blood Sugar	Urine Sugar
Fasting	118 mgms/100 cc.	Negative
1 hr. after 100 gms. dextrose	166mgms/100 cc.	Negative

(Test was discontinued because of weakness of the patient.)

URINALYSIS
Voided, straw—slightly cloudy—acid reaction.
Sp. Gr.: 1.025
Sugar and Albumin: Negative
Pus cells: Rare, h.p.f.
Epithelial Cells: Occasional renal and squamous
Miscellaneous: Frequent amorphous urates; numerous mucous threads.

OPTHALMALOGIST'S FINDINGS:
(Charles P. Elsberg, M.D.)
Vision: R 20/70
L 20/30-1 Without correction
Manifest Refraction: R- -50 X 90 20/25
L- -25 X 90 20/20-1

External Examination reveals there is no exophthalmos. The lids and lashes are normally placed. The lacrimal apparatus is in order. The conjunctiva is normal. The cornea is normal. The anterior chambers are deep and clear. The iris markings are normal. The pupils are equal and regular and react to light and near vision. The lenses are normal. Finger tension is normal.

Ophthalmoscopic Examination reveals the vitreous is normal. Fundus examination reveals the nerve head to be normal. The retinal vessels reveal no changes. The macular region and the peripheral fundus is normal.

Muscle Examination reveals no muscle pathology.

Field Examination: Central Field examination (tangent screen) reveals: a nerve fibre bundle defect in the left eye; the right eye was normal. Peripheral Field examination (perimeter) reveals well advanced concentric contractions of the fields in both eyes.

The etiology for these changes of course are diverse. However, in view of the history and physical findings, the most likely cause is due to pressure. Other less likely causes may be toxic and inflammatory conditions, vascular disease, trauma, and functional.

Impression: 1. There is no evidence of papilloedema.
2. Myopic astigmatism.
3. I believe the field changes are due to pressure and are moderately early in nature—more advanced changes would show hemianopia; also, there would be fundus changes present which are not seen in this case."



FIGURE I

X-RAY EXAMINATION:
(Dr. Vincent M. Ravel)

Chest: Examination of the chest reveals the lungs to be well ventilated. The visualized portion of the bony thorax and diaphragm appear natural. The heart appears natural except for moderate outflow tract enlargement of the left ventricle. The mediastinal structures are normal. There is no evidence of active pulmonary infection. The trachea and esophagus occupy their usual positions.

Hands. Radiographic examination of both hands reveals a bilateral symmetrical enlargement of the bones. There is no evidence of recent trauma. There is no evi-

dence of arthritis. There is an accompanying enlargement of the soft tissues.

Cervical Spine: Radiographic examination of the cervical spine reveals a moderate amount of hypertrophic degenerative osteoarthrosis. The usual lordotic curvature is well maintained. There is an old healed fracture of the spinous process of C-3 with cephalic angulation of the distal fragment. The interspaces are well maintained, and no abnormal calcifications are present in the longitudinal spinal ligaments.

Left Shoulder: The bones comprising the left shoulder appear natural except for moderate hypertrophic degenerative changes. No soft tissue calcifications in the bursae can be identified. There is no evidence of recent trauma. The joint space is well maintained.

Skull: AP. PA, right lateral stereo, base, and localized sellar views were performed. There is a marked alteration of the cranio-facial relationship with the relation being approximately 1¼-1. The facial bones are markedly enlarged, particularly the mandible. There is marked enlargement of the sinuses, especially the frontals. The bones comprising the cranial vault appear natural, no increase in thickness or increase in deposition of bone being observed. There is no increase in the digital markings. The pineal is calcified and occupies its usual position, as measured by the Vastine-Kinney method. The petrous ridges, superior orbital fissures, and formina at the base of the skull are intact. The sella is markedly enlarged, measuring 22 x 18 mm. The dorsum is thinned out and reveals a posterior bulge. Eye ground examinations are recommended to determine the amount of optic nerve involvement. The disturbed cranio-facial relationships together with the enlargement of the hands and the sellar changes, indicates as eosinophilic adenoma of the pituitary gland.

Conclusions: Acromegaly. Eosinophilic adenoma of the pituitary. Hypertrophic degenerative osteoarthrosis of cervical spine and shoulder. Old fracture of third cervical dorsal process.

Presenting Physician: I am of the opinion that this patient has a pituitary tumor, and in view of this opinion, I am presenting this case for confirmation of the diagnosis, and the Clinic recommendation for therapy. In view of the progressive diminution of the visual fields, the question of radiation therapy I feel must be considered. While these patients symptomatically feel better on estrogen therapy, I sincerely doubt that this type of therapy is indicated insofar as this particular patient is concerned. However, I will be pleased to hear the views of the Clinic members regarding the therapeusis insofar as this particular patient is concerned.

Dr. Ravel: Insofar as the diagnosis is concerned, I hold a very definite impression that this patient has an intrasellar tumor.

Dr. Fuchlow: I believe we can accept the diagnosis of intrasellar tumor, and the question now comes as to treatment, and that resolves itself into the question of whether you are going to use radiation therapy or not. I do not think there is any sense in attempting any other type of therapy; for example, the estrogens.

A Physician: Would there be any indication for surgical intervention?

Dr. W. A. Jones: I do not consider surgery to be indicated in this case so long as the patient possesses sight.

A Physician: Dr. Jones, do you believe that x-ray therapy will relieve the headache or help the visual fields?

Dr. Jones: I am not over-optimistic. In 25 or 30 cases, it has only helped in a small percentage.

Dr. Fuchlow: Radiation is the treatment of choice. I do not believe there is any other alternative; insofar as I am concerned, I think this man should be subjected to intensive radiation.

Dr. Ravel: I agree with Dr. Fuchlow. However, there is one danger, and that is hemorrhage.

Dr. Fuchlow: I note that this man does not have true hypertension, but there is no reason why it should not develop. I believe he should be studied along these lines.

Presenting Physician: This man's blood pressure was 142/84, and you will also note that the bioassay for the anti-diuretic hormone was positive. This would rather indicate that this man would develop hypertension undoubtedly, and I should consider that for this reason radiation therapy would be indicated.

Dr. Ravel: I concur, and I believe this is all the more reason this man should be subjected to irradiation.

Presenting Physician: In regards to the radiation treatment, I would like to know the recommended dosage, and how often it should be used, and what length of time, approximately, the patient would be under this type of therapy.

Dr. Fuchlow: This is an individualistic affair insofar as the amount of therapy given to the patient is concerned. It is my feeling that it would take six to eight weeks before you could see results. Patient would have to be carefully observed throughout this time, and his visual fields would have to be studied carefully. I would recommend a dose of 7000 r's.

A Physician: Do you not consider that a rather heavy dose?

Dr. Ravel: While this dose has been used, there are many who are a bit more conservative in the dosage.

Dr. Fuchlow: These cases are not frequent, but I have treated these patients with 7000 r's, and it is my feeling that this man should have this amount of therapy.

It was the opinion of the members of the Tumor Clinic that this intrasellar tumor should be treated by radiation in a dose of 7000 r's, carefully administered over a period of four to eight weeks, and that the patient should be carefully watched, especially as regards his visual fields. The Clinic felt that neither surgery nor estrogenic therapy was indicated at this time.

Silver City Hospital

Silver City General Hospital, formerly operated by the Grant County Charity Hospital Association, is now being conducted jointly by the City of Silver City and Grant County. Dr. J. T. Pebworth, formerly of Indianapolis, is the new manager.—E. A. RYGH, M. D., Regional Editor.

Promptly every three months we suffer from a recurrent twinge of resentment at the ingratitude of the Great White Father in Washington. We feel, regardless of the added expense, that the Internal Revenue Department should mail out a small receipt "acknowledging **with thanks**" our contributions. After all, we pay their salary.

GRANULOMA INGUINALE

By Michael J. Scott, Lt,, MC, Francis S. Jones, Capt., MC, and Leslie M. Smith, M.D.,
William Beaumont General Hospital, El Paso, Texas

Granuloma inguinale is a mildly contagious, auto-inoculable, destructive, chronic disease which occurs mainly in the tropics but is also endemic in the United States. It is generally regarded as a venereal disease, although its venereal origin has never been completely proved. In this country it occurs predominantly in Negroes. In numerous instances its occurrence in Caucasians may be traced to sexual exposure to Negroes, as may have occurred in our case. Racial immunity, low degree of contagiousness, and better hygienic environment may account for its rarity in white people. This disease has been reported in individuals from two to ninety-four years of age. The period of incubation for granuloma inguinale has not as yet been accurately determined. It has been recorded as varying from a few days to three months.

In 1904 Donovan found intracellular organisms in cases of granuloma inguinale which are now known as Donovan bodies. They are constantly associated with the disease and are accepted as diagnostic although they have not been proven to be the etiological agent. Attempts to reproduce the disease in animals have not been successful. Characteristically, the Donovan bodies appear as encapsulated bodies both within and without the mononuclear cells found in smears from the granulating lesions.

SITES OF PREDILECTION

The sites of predilection are the inguinal, pubic, genital or anal regions. Extragenital cutaneous lesions are not uncommon and occasionally the disease may be systemic involving bone, visceral organs, and the gastro-intestinal tract among other locations. The initial lesion is usually a papule which soon becomes ulcerated. This ulcer is well demarcated with an advancing rolled border. The base of the ulcer is red with areas of granulation tissue which bleed easily. This growth of granulation tissue may form a fungating mass resembling a neoplasm. The lesions are not painful but slowly progressive, indolent and eventually odoriferous. Satellite lesions may develop through auto-inoculation. The regional lymph nodes are usually not enlarged as granuloma inguinale is not a disease of the lymphatic system. Subcutaneous granulomas or "pseudobuboes" may occur in the inguinal region and are often mistaken for inguinal adenopathy. The ulcerative lesions may remain stationary for many years or cicatrization may occur. Cicatricial tissue may be intermingled with active lesions and associated with a loss of skin pigment. Persisting sinuses and hypertrophic scars devoid of pigment are characteristic. During the process of cicatrization the lymph vessels are occasionally obstructed, resulting in lymphedema of the genitals.

Granuloma inguinale is readily distinguishable from syphilis, chancroid, lymphogranuloma venereum and carcinoma, although they may be coexistent. Final diagnosis should be made only upon demonstration of the Donovan bodies.

From the Medical and Laboratory Services, William Beaumont General Hospital, El Paso, Texas

CASE PRESENTATION

The demonstration of Donovan bodies in surgical histological sections, the uncommon occurrence of granuloma inguinale in Caucasians, and its rarity in the Southwest, were deemed of sufficient interest by the authors for submitting the following case report:

A 27-year-old white male soldier was admitted to the dermatology ward of William Beaumont General Hospital on October 28, 1948. The chief complaint of the patient was a gradually enlarging penile lesion of approximately three months duration. He was transferred from an Army station hospital for diagnosis and treatment. At two station hospitals, prior to his admission to William Beaumont General Hospital, numerous darkfield examinations for treponema pallidum, serological tests for syphilis, and Frei tests were performed, all with negative results. These tests were initially performed almost immediately after the onset of his present condition.

The patient's family and past histories were non-contributory. He denied prior venereal diseases save for acute gonorrheal urethritis in 1946, which responded to penicillin therapy without sequelae. The patient admitted sexual intercourse with a "dark Spanish girl" during the latter part of July 1948. Insufficient information was obtained to locate his contact for examination. Upon admission to William Beaumont General Hospital the physical examination disclosed the patient to be a well developed, apparently healthy individual. The only pathology noted was a sharply demarcated, irregular, non-tender, non-indurated ulceration on the dorsal inner aspect of the prepuce adjacent to the coronal sulcus. The central area of this ulcer was beefy-red, granulomatous, and oozing serum. The periphery consisted of an elevated rolled border. The entire lesion was approximately 2.5 by 2 cms. in width. Discrete, small, non-tender inguinal lymph nodes were palpable, but were considered to be within normal limits. The clinical impression upon admission was granuloma inguinale. Darkfield examinations for treponema pallidum upon admission, as well as subsequent similar examinations, proved negative. A biopsy specimen was secured and smears taken from material obtained by curettage from the elevated border in an attempt to locate the Donovan bodies. Both procedures proved fruitful, as Donovan bodies were located in the histological preparations as well as the smears.

DARKFIELD EXAMINATIONS

Repeated darkfield examinations, Frei and Ducrey Skin Tests for Lymphogranuloma Venereum and Chancroid respectively, and serological tests for syphilis remained negative during hospitalization at William Beaumont General Hospital from 28 October to 16 December 1948. The urinalysis was essentially negative. The blood count upon admission was as follows: RBC: 5,090,000; WBC: 10,150; Hb. 14.5 gms. (93 per cent). The differential white blood count consisted of: Neutrophiles, 63 per cent; Lymphocytes, 28 per cent; Monocytes, 7 per cent, and Eosinophiles, 2 per cent.

Microscopic examination of the biopsy specimen showed an ulcerated skin surface with varying amounts of regenerating epithelium. The entire dermis in the region of the ulceration was heavily infiltrated by many plasma cells, lymphocytes and polynuclear leukocytes. Large mononuclear leukocytes were also present as were occasional mast cells. The polynuclear cells were found diffusely and in "pools". Giemsa stained sections of



PHOTOGRAPH OF LESION
TAKEN PRIOR TO STREPTOMYCIN THERAPY

Zenkerized formalin fixed tissue showed a few of the large mononuclear cells to contain many small rod-shaped or spherical, basophilic, introcytoplasmic bodies. The histological diagnosis was granuloma inguinale.

Smear preparations taken directly from the lesion and stained with Wright's stain showed many large monomnuclear cells to contain intracytoplasmic inclusion bodies typical of Donovan Bodies.

CLINICAL RESPONSE

Upon confirmation of the clinical diagnosis the patient received therapy consisting of one gram of streptomycin daily for fifteen consecutive days. Streptomycin was administered in divided intramuscular injections containing 0.5 gram streptomycin at 8 a. m. and repeated at 5 p. m.

Clinical response to the above therapy was dramatic and noted immediately following the initial injections of streptomycin. The lesion continued to involute upon completion of therapy and the patient was considered cured upon hospital discharge on 16 December 1948.

Before streptomycin became available many types of local and systemic treatment in cases of granuloma inguinale were necessary. The earlier the therapy was initiated, the more favorable was the prognosis. Tartar emetic, mono-sodium thioglycollate, and Fuadin were the most efficacious systemic medications. It was not uncommon for the above therapeutic agents to be administered for many years without encouraging results. Penicillin even in large doses has no beneficial effect. The use of streptomycin has had dramatic effects. Healing usually occurs within one month without additional therapy. The total dosage and length of administration are as yet arbitrary, but the schedule used in this case appeared satisfactory. Although it is too early to evaluate completely, streptomycin is certainly the most effective agent available for the treatment of granuloma inguinale.

CONTRIBUTORS

MICHAEL J. SCOTT, Lt., MC., Chief, Dermatology and Syphilology Section, William Beaumont General Hospital, El Paso, Texas.

FRANCIS S. JONES, Capt., MC., Pathologist, William Beaumont General Hospital, El Paso, Texas.

LESLIE M. SMITH, M.D., Consultant Dermatologist, William Beaumont General Hospital, El Paso, Texas.

The Instruction Of The Diabetic Patient

(Continued from Page 250)

pending complications, and the measures which must be taken should such signs appear.

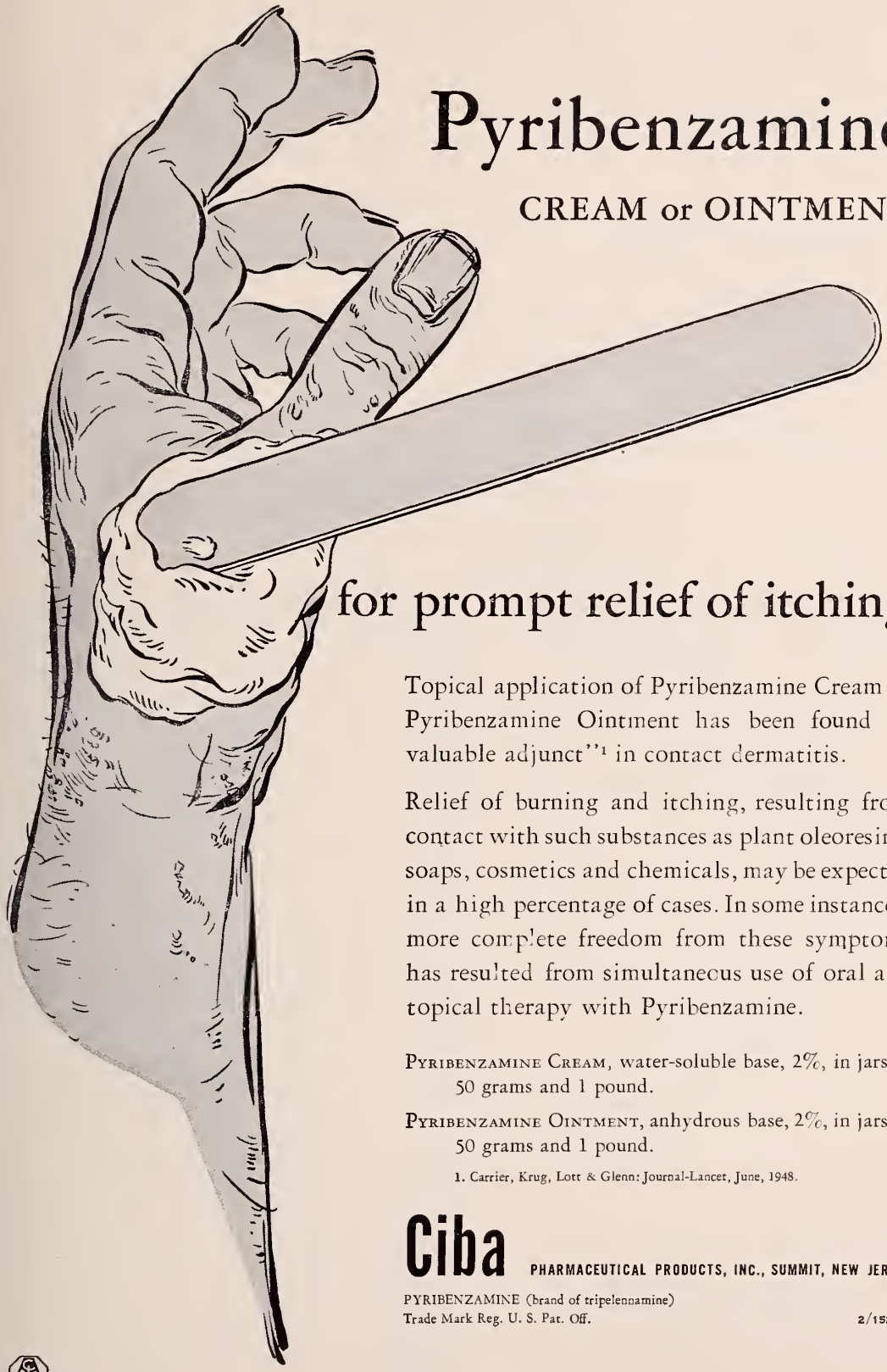
It is not necessary, nor is it good medicine, to frighten the patient; and it is absurd to have him devote time and attention to a scientific study of his disease.

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Effect Of Oral Streptomycin On The Intestinal Flora

"The oral administration of as little as 1.0 gm. of streptomycin daily eliminated Escheria coli from the stool of five patients within two days. The stool could be kept free of these microorganisms as long as adequate streptomycin levels were maintained, but reappeared promptly when it was discontinued. Swabs taken at operation from the mucosa of the colons of two patients who had received preoperative streptomycin did not contain E. coli. These microorganisms also were eliminated from the distal segment of a colostomy by streptomycin lavage per rectum. Streptomycin did not affect the anaerobic flora of the stool, and had no appreciable effect on the fecal streptococci."—Kane, L. W., and Foley, G. E., **Proc. Soc. Exper. Biol. and Med.** 66:201, 1947.



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1. Carrier, Krug, Lott & Glenn: Journal-Lancet, June, 1948.

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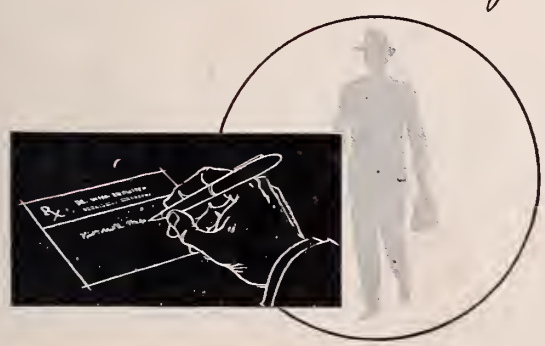
OFFICIAL JOURNAL OF THE SOUTHWESTERN MEDICAL ASSOCIATION AND EL PASO COUNTY MEDICAL SOCIETY

December, 1949

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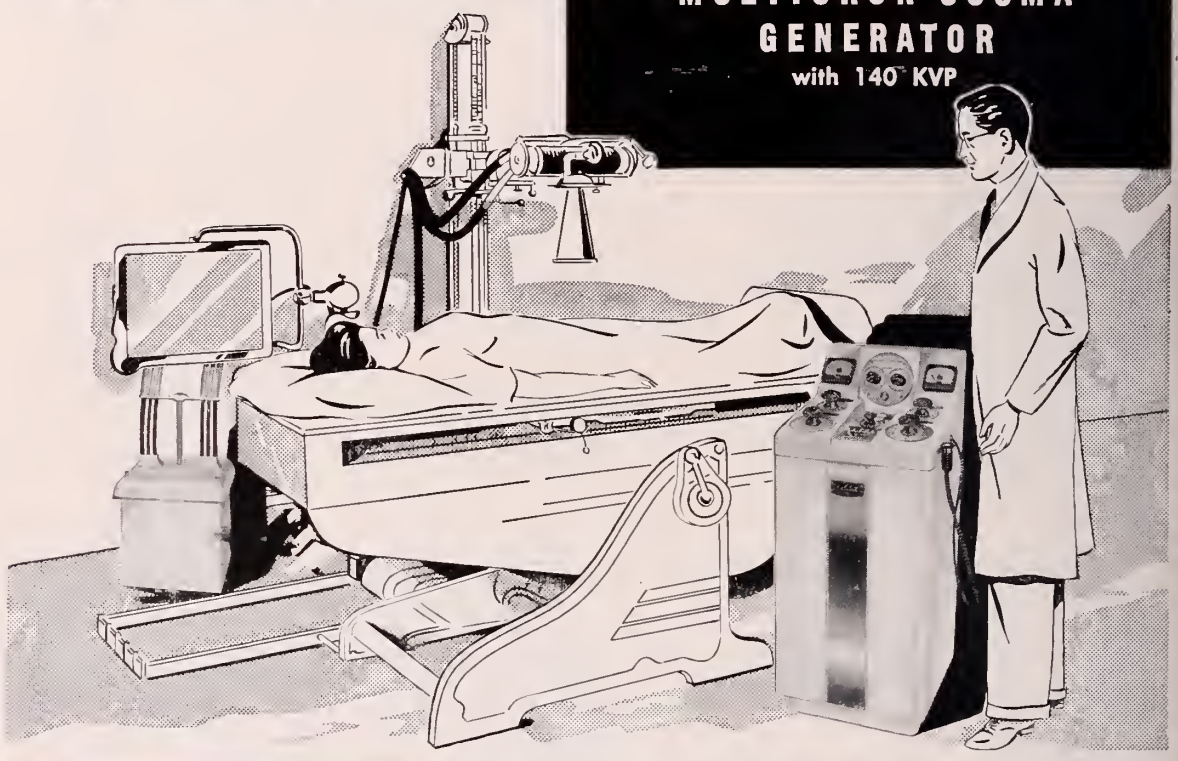
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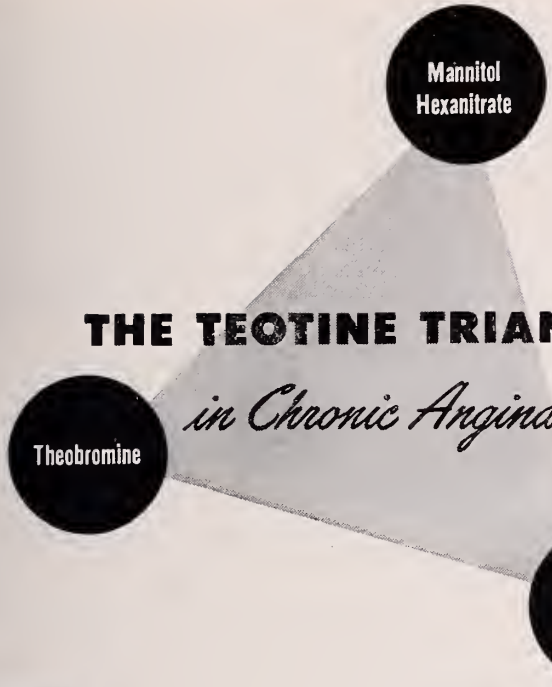
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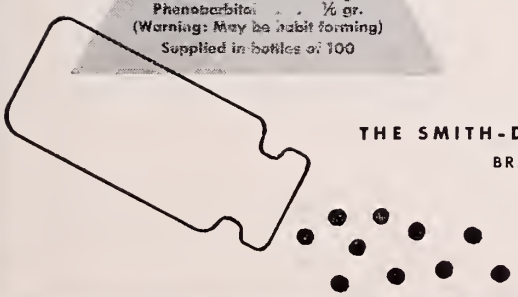
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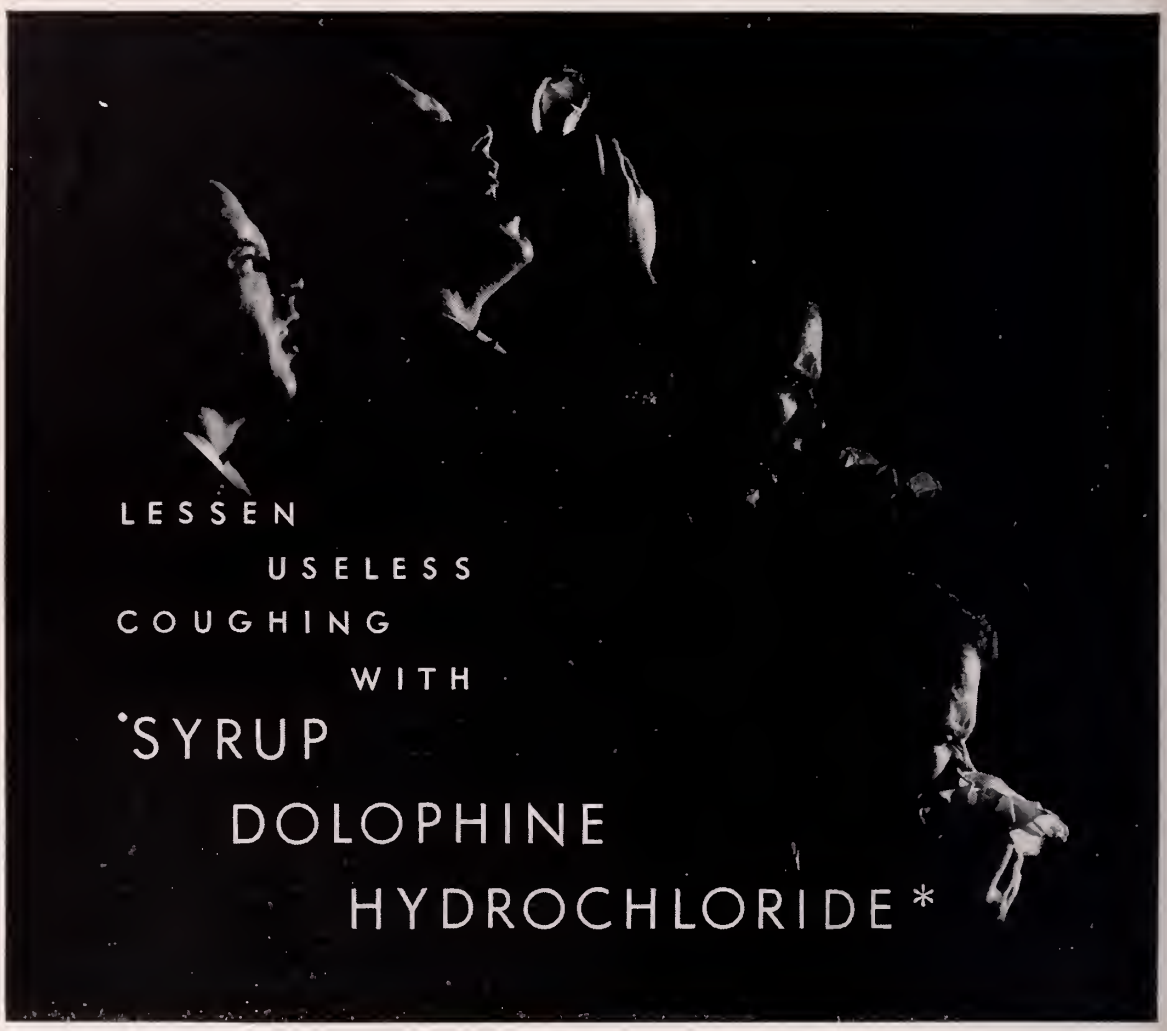
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SPLENDID PROGRAM FEATURES SOUTHWESTERN MEDICAL ASSOCIATION CONFERENCE

Some 400 members of the Southwestern Medical Association from New Mexico, West Texas, Arizona and Northern Mexico attended various sessions of the association's annual conference, held jointly in Albuquerque, Nov. 9-12, in conjunction with activities of the New Mexico Division of the American Cancer Society.

Dr. I. J. Marshall of Roswell, named president-elect a year ago was installed as president for the 1949-50 year. Dr. Louis W. Breck of El Paso was elected president-elect. Other officers elected to serve for the 1949-50 term are Dr. James Walsh, Douglas, Ariz., first vice-president; Dr. Charles M. Thompson, Albuquerque, second vice-president; and Dr. Willard W. Schuessler, El Paso, secretary-treasurer.

Phoenix was chosen conference city for 1950.

Retiring officers were: Dr. Joseph M. Greer, Phoenix, president; Dr. W. E. Vandevere, El Paso, first vice-president; Dr. Joseph Bank, Phoenix, second vice-president; and Dr. W. R. Curtis, El Paso, secretary-treasurer.

Presiding over various meetings of the conference were Dr. Greer; Dr. J. W. Hannett, Albuquerque, president of the New Mexico State Medical Society; Dr. H. C. Jernigan, Albuquerque; Dr. H. L. Bass, Albuquerque; Dr. Bank; Dr. Vandevere; and Dr. Marshall.



DR. I. J. MARSHALL

Host for the conference was the Bernalillo County Medical Society. In charge of arrangements were Dr. Charles M. Thompson and Dr. J. R. Van Atta. They were assisted by Ralph Marshall, executive secretary for the New Mexico State Medical Society.

Dr. E. T. Bell, who recently retired from the University of Minnesota, where he had been Professor and Head of the Department of Pathology for 29 years, said the program was one of the best he had ever attended. Dr. Bell's paper on "Experimental Production of Cancer" was considered one of the highlights of the conference.

Dr. Evans W. Pernokis, also a convention speaker, who is Associate Professor of Medicine at the University of Illinois Medical School, said, "My only regret about the conference was that every practitioner in the United States was not able to attend."

The new president, Dr. Marshall, was equally enthusiastic about the meeting and joined Dr. Greer, retiring president, in thanking the Bernalillo Society and the New Mexico Division of the American Cancer Society for their splendid efforts.

Dr. Marshall was born in Tioga, Texas, in 1904 and reared in Floydada, Texas. He received his A. B. from Hardin-Simmons University and his M. D. from Baylor University Medical School in 1932. He took his internship at the Methodist Hospital in Dallas and Baylor Hospital in Dallas. He was consulting surgeon at the government hospital in Fort Stanton, N. M., and is chief of the surgical staff at St. Mary's Hospital in Roswell, where he practices surgery.

Guest speakers, in addition to Drs. Bell and Pernokis were Dr. Kenneth D. A. Allen, Dr. Ehner Belt, Dr. William Boyd, Dr. Otto C. Brantigan, Dr. Allan M. Butler, Dr. Herbert Willy Meyer, Dr. Donald M. Pillsbury, Dr. William H. Rettberg, and Dr. Herbert F. Traut.

An outstanding event of the meeting was the welcome address by Dr. Hannett, president of the New Mexico State Medical Society. Dr. Hannett said that: "It is becoming more and more apparent that Doctors of Medicine are in the vanguard against

the police state and have won the preliminary skirmishes and will likely win the war."

Charging that more than 20 medical societies have been investigated in recent weeks by the anti-trust division of the Department of Justice, Dr. Hannett said "No one knows who will be next."

"The American doctor must be ready to go on trial for having the audacity to defend the American way of living," he said. "For the first time in our history a unified medical profession has stood upon its hind legs, and the boys in Washington don't seem to like it. They are trying to intimidate us with cries of monopoly."

"It's our plain duty to let every department of government know, and every citizen know, there could be no greater monopoly and no worse monopoly than socialized medicine."

DR. JONES TO LORDSBURG

Dr. Dudley Jones of Roswell has announced change of practice and address to Lordsburg, N. M.

CHAVES COUNTY MEETING

Chaves County Medical Society monthly meeting in October was a dinner meeting in a private dining room at the Nickson Hotel, Roswell, New Mexico, arranged by Dr. R. P. Waggoner, chairman of the program committee. Dr. Van Odle presided and routine business was minimal.

There was a good attendance of local members to hear Dr. L. M. Miles of Albuquerque discuss some problems in the practice of obstetrics. Dr. Miles spoke as the voice of experience in decrying some of the taboos still carried in textbooks. He discussed the virtues of the judicious use of pituitary extracts, pitocin in particular, in the induction of labor. Elective induction of labor has become more popular in presence of certain conditions of maturity. His remarks and the discussion which followed were enjoyed by all.—E. W. Lander, M. D., Regional Editor.

Southwestern Medicine

Journal of
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VOL. XXX 29 DECEMBER, 1949 NO. 12

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Midland: Dr. L. W. Leggett, Leggett Bldg.
Odessa: Dr. Emmett Headlee.

MEXICO

Chihuahua, Chih.: Dr. Julio Ornelas K., Edif. Centro Medico de Chihuahua.
Juarez, Chih.: Dr. Luis Valdes, Cinco de Mayo 207.
Nacozari de Garcia, Sonora: Dr. Manuel S. Perez Mezquita.
Torreon, Coahuila: Dr. Alvaro Rodriguez Villareal, Clinica de Radiologia, Avenida Morelos.

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ORGANIZATION EDITORS

Arizona Chapter of the Western Orthopaedic Association: Dr. John H. Ricker, 926 East MacDowell Road, Phoenix, Ariz.

Arizona Medical Association: Dr. Howell Randolph, 1005 Professional Bldg., Phoenix, Ariz.

El Paso County Gynecological Society: Dr. F. A. Snidow, Mills Bldg., El Paso, Texas.

El Paso County Medical Society: Dr. H. D. Garrett, First National Bank Bldg., El Paso, Texas.

Mexico-U. S. Border Public Health Association: Dr. M. F. Haralson, U. S. Court House, El Paso, Texas.

New Mexico Medical Society: Dr. William W. Woolston, 221 West Central Avenue, Albuquerque, New Mexico.

Southwestern Dermatological Association: George K. Rogers, M.D., Phoenix, Arizona.

Southwestern Medical Association: Dr. Leslie M. Smith, First National Bank Bldg., El Paso, Texas.

Southwestern New Mexico Medical Society: Dr. W. B. Cantrell, Hot Springs, N. M.

THE ADDRESS OF DR. J. W. HANNETT

President of the New Mexico Medical Society Before The S. W. M. A. Conference

"Mr. President, Distinguished Visitors and Fellow Members of the Southwestern Medical Society and Wives."

"It is a privilege and honor to be asked to welcome you at a medical and surgical conference in this perilous medical era. One has a feeling of high adventure in making any kind of public utterance, as he may be escorted from the room by a U. S. Marshall. The keyhole and second story artists are tracking us down! Even now there may be a dictaphone installed in this room. The recent alleged mid-night rape of the offices of the A. M. A. in Chicago is perhaps the first hint of a delicious sense of insecurity — a foreboding of dire things to come and at the same time a challenge to our profession. To date the forces of statism, in trying to smear the ancient medical profession, have only smeared themselves."

POLICE STATE

It is becoming more and more apparent that we are in the vanguard against the police state and have won the preliminary skirmishes and will likely win the war. However, it is no time to relax. The bureaucrats are now licking their sore paws and exploring any and all legal possibilities to discredit us. The immediate position of the bureaucrats is reminiscent of an incident that occurred here at an afternoon tea a few years ago. The hostesses little girl had misbehaved, and her mother locked her in a clothes closet. She had been incarcerated in the clothes closet quite some time, when one of the guests feeling sorry for her, decided to take a peek into the closet. There stood the belligerent child, quiet but furious. The sympathetic guest asked the little girl what she was doing, whereupon the child promptly said:

"I have been spitting on all of my mothers best dresses, and am now standing here waiting for some more spit."

No doubt Mr. Ewing and his crowd are closeted together and accumulating more spit.

DOCTORS FACE TRIAL

Over twenty of our medical societies have been subjected to investigation by the anti-trust division of the department of justice, during the past few weeks, and no one knows who will be next. Even our most naive doctors should notice that every new attack is given blatant publicity in the press. The American doctor must be ready to go on trial for having the audacity to defend the American way of living. For the first time in our history a unified medical profession has stood up on its hind legs, and the boys in Washington don't seem to like it. They are trying to intimidate us with cries of monopoly. It is our plain duty to let every department of government know, and every citizen know, there could be no greater monopoly and no worse monopoly than socialized medicine.

HELP FROM WOMEN

An active and highly intelligent Womens Medical Auxilliary has already taken a hand in this fight to protect our American system, and it has long been recognized that the female of our specie should not be underestimated. It is a comfortable feeling to confidently predict that there will be national door bell ringing activity in the autumn of 1950 and if necessary, again in 1952.

I have been a lifelong Democrat, and have voted for every Democratic candidate for president since arriving at my majority. From here on, partisan politics goes out the window. We must interrogate every county, state, and national candidate as to his or her stand on socialism, then ask our friends to vote for candidates favorable to free enterprise, regardless of political faith.

GOVERNMENT AID

And now a word about local conditions in New Mexico. In the Southwest the federal and state governments have spent much time and money to rid the country of prairie dogs and predatory animals. The stockmen have been successful in accomplishing legislation to protect their cattle, horses, sheep and hogs. On the other hand, our busy but drowsy medical profession has done nothing to abate the propagation of medical rodents. Not many cow men are breaking their horses legs in prairie dog holes, yet the cultists are treating major fractures and doing major surgery.

When showing our distinguished guest speakers about town, and encountering queer appearing buildings with large hospital signs in front, be sure to explain that we are in the midst of a cultist epidemic and nothing is being done about it. Perhaps one or more of our visiting medical educators may suggest a remedy. We are badly in need of medical legislation as well as medical education. It is my understanding that some of the cultists organizations have endorsed state medicine, a case of quack legislation and quack medicine, i.e.; "'birds of a feather." When quacks bed down with quacks, the offspring is unpredictable.

BEST IN WEST

This address of welcome may sound to you like a "blues singer" at his worst, but if we embattled Doctors are about to be driven underground by the bureaucrats in this Autumn of 1949, the usual banalities seem spurious and a war dance should be more stimulating. In any event, we are glad you are here. We feel that Albuquerque, then El Paso, Phoenix and Tucson are the best in the West. A press article a few days ago stated that Athens, Georgia and Albuquerque, were the most rapidly growing communities in the United States. Sixty miles north of us is ancient Santa Fe. The mountains are all about us and our Rio Grande naval unit has not yet been dismantled. Many of my medical associates play golf, so there must be a golf course hereabouts. We expect to absorb the latest and best in medicine and surgery while you are here, and we hope that you in turn enjoy your stay with us.



El Paso Tumor Clinic maintains a public information center on cancer as well as serving patients and suspected cancer sufferers. Here, from left, Mrs. Agnes Melton, clinic secretary, takes notes for a bulletin for general mailing, as Mrs. J. Richard Fuchlow, acting clinic executive secretary, and Mrs. Tommie Sadler, nurse-in-charge, discuss information carried in the latest edition of "Cancer News." Mrs. Charles C. Carpenter, permanent executive secretary will return in January. (Photo by Arcy.)

ANNUAL REPORT OF EL PASO TUMOR CLINIC

In the past year the El Paso Tumor Clinic has functioned in a manner which has brought credit to the medical practice of the Southwest. It has not only provided for the diagnosis and care of patients, but it has also been instrumental in bringing both to the medical profession, and to the lay population speakers of national note who have added to our knowledge of neoplastic disease. Through the earnest efforts of the El Paso County Medical Society and the El Paso County Executive Committee of the American Cancer Association, a permanent headquarters has been established at 408 East Overland Street. This headquarters is equipped to function in both the clinical and the administrative fields of cancer diagnosis and control.

DR. FUCHLOW LOST

During the past year the Tumor Clinic sustained a severe loss through the untimely death of Dr. J. Richard Fuchlow. Dr. Fuchlow was indeed a moving spirit of the clinic. It is safe to say that no other member of the El Paso County Medical Society worked harder than he did to promote the activities of this particular organization.

It is gratifying to the medical profession of the Southwest that his widow, Mrs. Fuchlow, has stepped in and is carrying on with the same vigorous and kindly spirit that was characteristic of Dick Fuchlow's association with this project. A sizeable sum of money was donated in memory of Dr. Fuchlow

and these contributions have been spent to improve the physical lay-out of the clinic itself.

PUBLIC SERVICE

The El Paso Tumor Clinic is a public service organization. Every member of the El Paso County Medical Society is a member of the Tumor Clinic, and may and should participate in its activities. Your editor has had the opportunity of presenting cases for consideration at this clinic, and can testify as to the courteous and efficient treatment accorded both to the patient, and to his physician. **Southwestern Medicine** urges that all its readers in the proximity of El Paso avail themselves of the services offered by the personnel of the clinic.

The members of the Cancer Committee of the El Paso County Medical Society are as follows:

M. S. Hart, M. D. — Chairman
Hurston F. Heslington, M. D.
Russell L. Deter, M. D.

The members of the El Paso County Executive Committee, American Cancer Society, Texas Division, El Paso County Unit are as follows:

Albert J. Schwartz, Chairman; Leigh E. Wilcox, M. D., Vice-Chairman; Mrs. Margaret Schuster Meyer, County Commander and Secretary; Frank M. Harriss, Jr., Treasurer; Russell L. Deter, M. D., Mrs. David E. Goodman, Maynard S. Hart, M. D., Mrs. W. W. Hawkins, Mrs. Jose G. Hernandez, Hurston F. Heslington, M. D., Maurice E. Hill., Mrs. George J. Look, Ellis O. Mayfield, Mrs. D. L. Pillow, Mrs. W. E. Vandevere, Mrs. Samuel K. Wasaff, Mrs. Bennett M. Wilson, Mrs. Arthur V. Winther, Mrs. Agnes Wittman.

ANNUAL REPORT 1948-1949
EL PASO COUNTY MEDICAL SOCIETY
TUMOR CLINIC

Number of new cases (August 1948-August-1949	172
Number of old cases	301
Number of malignant cases	110
Number of benign cases	55
Number of undiagnosed cases	7
Cases treated by surgery	94
Cases treated by x-ray	57
Cases treated by radium	5
Cases treated by other means	4
Cases closed (unable to locate, not malignant, etc.)	109
Cases closed by death	54
Number of biopsies	61
Number of surgical specimens examined	106
Number of home visits	120
Number of teaching conferences	4
Average Doctor attendance	18
Total cases for follow-up study	141
Number of cases carried from last year	133

NUMBER OF MALIGNANT CASES 110

Cutaneous System
- Breast (18)
  1. Carcinoma 17
  2. Carcinoma, male 1
- Ear (2)
  1. Carcinoma, basal cell 1
  2. Carcinoma, epidermoid 1
- Nose (3)
  1. Carcinoma, basal cell 2
  2. Carcinoma, epidermoid 1
- Skin (9)
  1. Melanocarcinoma 1
  2. Carcinoma, basal cell 4
  3. Carcinoma, epidermoid 3
  4. Lymphoblastoma 1
- Tongue (2)
  1. Carcinoma, epidermoid 2
- Sweat Gland (1)
  1. Adenocarcinoma 1

Endocrine System
- Thyroid (4)
  1. Adenocarcinoma 4

Gastro Intestinal System
- Cecum (1)
  1. Adenocarcinoma 1
- Colon (3)
  1. Adenocarcinoma 3
- Liver (1)
  1. Adenocarcinoma 1
- Parotid Gland (4)
  1. Mixed Cell tumor 3
  2. Adenocarcinoma 1
- Peritoneum (1)
  1. Mesothelioma 1
- Rectum (1)
  1. Adenocarcinoma 1
- Sigmoid (1)
  1. Adenocarcinoma 1
- Stomach (7)
  1. Adenocarcinoma 5
  2. Carcinoma, anaplastic 1
  3. Leiomyosarcoma 1
- Pancreas (1)
  1. Islet Tumor 1

Genito Urinary System
- Bladder (5)
  1. Carcinoma, epidermoid 2
  2. Carcinoma, transitional cell 1
  3. Carcinoma, papillary 2
- Cervix (11)
  1. Carcinoma, squamous cell 10
  2. Adenocarcinoma 1
- Kidney (6)
  1. Adenocarcinoma, papillary 5
- Ovary (5)
  1. Carcinoma 2
  2. Pseudo Mucinous Cystadenoma 2
  3. Thecal cell tumor 1
- Penis (1)
  1. Carcinoma, epidermoid 1

Prostate (2)
1. Adenocarcinoma 2
Testicle (3)
1. Carcinoma, embryoma 2
2. Seminoma 1
Uterus (4)
1. Adenocarcinoma 4
Ureter (1)
1. Carcinoma 1
Vulva (1)
1. Carcinoma, squamous cell 1
Hematopoietic System
1. Leukemia, lymphatic 1
2. Hodgkin's Disease 1
Nervous System
1. Medulloblastoma 1
Respiratory System
Chest Wall (1)
1. Carcinoma, squamous cell 1
Larynx (1)
1. Carcinoma, squamous cell 1
Lung (6)
1. Carcinoma, bronchogenic 3
2. Hemangio-endothelioma 1
3. Teratoma 1
4. Fibro-sarcoma 1
Pleura (1)
1. Mesothelioma 1
Osseous System
1. Multiple Myeloma 1

NUMBER OF BENIGN CASES 55

Body as a Whole
1. Von Reckinghausen's Disease 2
Cutaneous System
Breast (4)
1. Cystadenoma, intraductal, papillary 1
2. Gynecomastia 1
3. Fibro adenoma 1
4. Mastitis 1
Skin (10)
1. Leprosy 1
2. Horn, cutaneous, face 1
3. Hygroma, cystic, neck 1
4. Hemangioma, abdomen and Neck 2
5. Nevus, congenital, neck 1
6. Angio-endothelioma, scalp 1
7. Cyst, thyroglossal 2
8. Hematoma 1
Tongue (4)
1. Lymphangioma 1
2. Inflammation, granulomatous 1
3. Granulation 1
4. Fibroma, pedunculated, buccal mucosa 1
Endocrine System
Pituitary (1)
1. Adenoma 1
Thyroid (4)
1. Adenoma 1
2. Abarrent cyst 1
3. Thyroiditis 2
Gastro Intestinal System
Stomach (3)
1. Cardiospasm 1
2. Gastritis 2
Colon (3)
1. Hernia, indirect, inguinal 1
2. Polyp 1
3. Pertonitis, tuberculous 1
Liver (1)
1. Cirrhosis, portal 1
Parotid Gland (1)
1. Adenocystoma, papillary 1
Rectum (1)
1. Hemorrhoids 1
Rectus Sheath (1)
1. Tumor, desmoid 1
Genito Urinary System
Cervix (1)
1. Cervicitis, chronic 1
Kidney (2)
1. Hydronephrosis, giant 1
2. Cyst, dermoid 1
Ovary (1)
1. Hypergonadism 1
Prostate (1)
1. Inflammation, chronic 1
Testicle (1)
1. Infarct, organizing 1
2. Hydrocele, multilocular 1
Uterus (1)
1. Fibroid 1
Osseous System
Patella (1)
1. Cyst 1
Tibia (3)
1. Inflammatory process 2
2. Osteo-Chrondroma 1
Respiratory System
Lungs (7)
1. Cyst, inflammatory 1
2. Hyperplasia, fibrocystic 1
3. Pneumonitis 2
4. Abscess 1
5. Bronchitis, chronic 2

CASES UNDIAGNOSED 7

DISADVANTAGES OF SULFONAMIDE COMBINATIONS

"A case is . . . presented where a sulfonamide combination was given with a resultant severe thermal reaction. The infection was penicillin and streptomycin resistant and sulfathiazole administered alone caused a toxic reaction but sulfadiazine was completely and quickly effective in eradicating the disease. It is suggested on theoretical grounds that the administration of sulfonamide combinations will enhance the possibility of sulfonamide reactions such as drug rashes, drug fevers, hemolytic anemias and neutropenias. It would appear to be better judgment to give a single sulfonamide with adequate alkali to prevent intrarenal drug precipitation than to give sulfonamide combinations."—Carroll, W., Ann. Int. Med. 29:533, 1948.

TUMORS OF ADULT RENAL PARENCHYMA

By Robert F. Thompson, M. D., F. A. C. S.,
El Paso, Texas

Most adult renal neoplasms develop in the parenchyma, and they are relatively uncommon. It has only been in last quarter of a century that they were readily diagnosed. Previously such tumors were recognized only at operation or autopsy. The modern improvements in urographic diagnosis have made it possible to diagnose these cases preoperatively and as a consequence the incidence of renal tumors seem greater than in the past. Unquestionably the incidence is no greater than formerly, but with complete urological investigation being instituted for most all suspicious cases, a greater number of renal tumors are being found.

AGE AND INCIDENCE

Renal tumors in adults usually occur after the fortieth year, and are most frequent in the sixth decade. They are much oftener seen in males than females. For some unexplainable reason in all of the cases to be reported in this series, with one exception, the left kidney was involved.

PATHOGENESIS

The term "hypernephroma" is not an accurate pathological term. Yet it is so firmly established in medical literature that it will probably always remain as the term designating adult renal parenchymal tumors. They are some times called Grawitz tumors after the pathologist who in 1883 published his studies on renal tumors and showed that these tumors often had a histological structure resembling that of the adrenal cortex, and who believed that they arose from aberrant adrenal rests. His opinions, although widely accepted, were opposed by later authorities who were of the opinion that these tumors are true renal carcinoma, originating from adult renal epithelium. It was Birch-Hirschfeld who, in 1892, coined the term "hypernephroma." He believed in the aberrant adrenal rest theory of Grawitz as explaining the origin of these tumors.

The subject is still unsettled and no definite agreement prevails today among pathologists concerning the classification and origin of renal tumors. Most every text book on urology or pathology gives an individual classification. It is noteworthy that such an eminent authority as Ewing is of the opinion that there is a relatively small group of renal tumors which are undoubtedly adrenal growths with a structure exactly duplicating that of the adrenal cortex. Such tumors are truly hypernephromas.

PATHOLOGY

The great majority of adult parenchymal tumors arise from the renal epithelium. Papillary adenocarcinomas with clear cells constitute the largest group of renal tumors. These tumors are usually well circumscribed and do not infiltrate the kidney tissue readily. They do not grow fast and may not produce symptoms for a long while, and until they have produced a good sized mass in the loin. When these tumors are sectioned they have a yellowish appearance. Hemorrhagic areas and necrosis may be present, too. Microscopically, they consist of papillary strands of connective tissue and fine capillaries covered with large, clear cuboid cells.

Granular cell papillary adenocarcinomas are not prone to produce large nodular growths. In the gross they are greyish-white in appearance. They have a definite tendency towards infiltration and to invasion of the pelvis. Microscopically, they are composed of small granular staining cells which may be in papillary or alveolar form. The granular cell type is more malignant than the clear cell type. They often metastasize by means of the lymphatics.

Malignant cystadenomas are whitish tumors. They are encapsulated. They do not grow fast, as a rule, and are usually slow to metastasize. They have the best prognosis of any type of kidney cancer. Microscopically, they are composed of fine connective tissue stroma lined with dark-staining, cuboidal cells which are arranged in papillary formation.

Alveolar carcinomas are more malignant than any other type. In the gross they are white in color and have a definite capsule. They speedily infiltrate the kidney substance and invade the lymphatics and blood stream. When viewed under the microscope they are seen to be composed of ovoid or rounded cells and their arrangement varies from a form resembling normal renal tubules to a picture where there is absolutely no cell differentiation, the cells being packed and pressed together very firmly. Connective tissue tumors and embryonal tumors are extremely rare in adults.

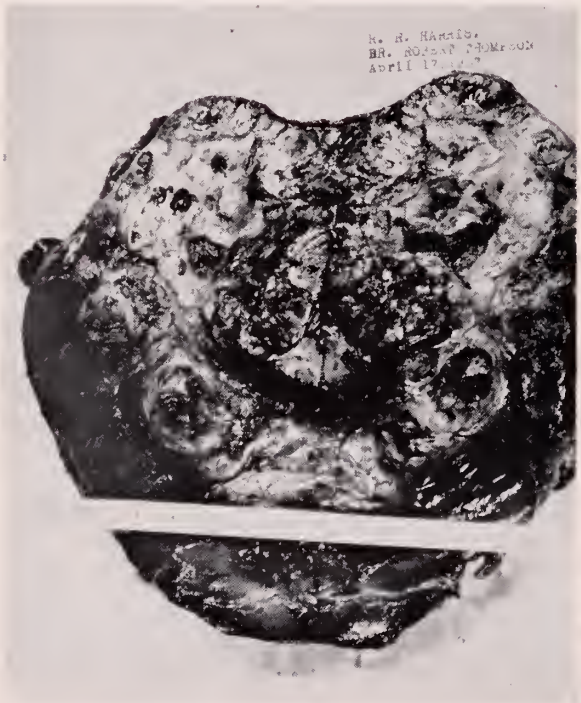
Renal tumors may be benign. It is true that often small tumors are found at autopsy in persons who during their lifetime gave no evidence of their presence. These are usually small adenomas which are a relatively common post-mortem finding in arteriosclerotic kidneys. They often occur bilaterally. Yet, any renal tumor recognized clinically should be considered malignant.



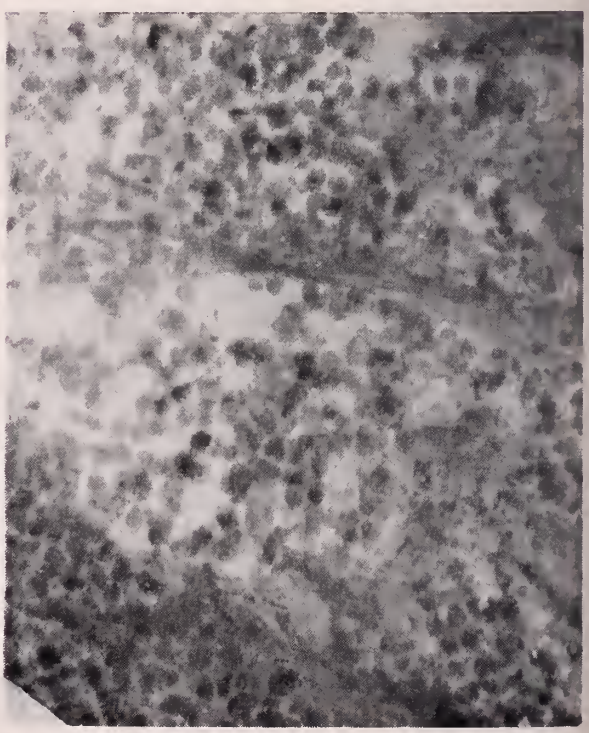
CASE I
Left kidney showing tumor at lower pole.



CASE I
Pyelogram showing compression deformity of left kidney.



CASE I
Left kidney sectioned showing tumor at lower pole.



CASE I
Photomicrograph showing hypernephroid tumor, clear cell type.

CLASSIFICATION

Renal tumors are classified as follows:

1. Carcinoma
   - (1) Papillary adenocarcinoma
     - a. Clear-cell (confused with hypernephroma)
     - b. Granular cell
     - c. A transition form, containing both types of cells.
   - (2) Alveolar carcinoma
   - (3) Malignant papillary cystadenoma

   } Epithelial Tumors

2. Adenoma
3. Sarcoma, spindle-cell
4. Fibroma: fibrosarcoma
5. Lipoma: liposarcoma
6. Leiomyoma: leiomyosarcoma
7. Myxoma: myxosarcoma
8. Hemangioma

} Connective tissue tumors

9. Adenomyosarcoma (Wilms' tumor) } Embryonal tumor

10. Hypernephroma } Tumor arising from adrenal rests

A simple classification given by Dodson of adenocarcinoma of the kidney:

- (1) Papillary adenocarcinoma
  - (a) with clear cells
  - (b) with granular cells
- (2) Malignant cystadenoma
- (3) Alveolar carcinoma

MODE OF SPREAD

All such tumors are malignant. Clinically the larger tumors appear to have metastasized more readily than smaller ones. They spread in the following ways:

- (1) Metastasis thru the blood stream
  - (a) by invasion of renal vein
  - (b) by microscopic emboli entering smaller vessels
  - (c) extension in vena cava
- (2) Metastasis thru the lymphatics
- (3) Direct extension thru capsule
- (4) Direct extension to renal pelvis and to ureter and to bladder.

The route by means of the blood stream is the most common.

SIGNS AND SYMPTOMS

The symptoms of hematuria, pain and tumor mass in the side have long been recognized as the classical triad which strongly suggests the presence of renal tumor. However, it must be remembered that they may be caused by other renal lesions as well. Hematuria is the most constant and outstanding symptom of renal tumor.

It is the earliest symptom in the majority of instances. Usually the urine is dark red and contains large clots or worm-like clots which have issued forth from the ureter. These clots may fill the bladder and give distressing vesical symptoms. Hematuria is often the earliest sympton and may appear when the tumor is not yet palpable.

Pain and tumor mass are late manifestations, and so often when they are present the growth may be far advanced with metastases already present, rendering the case beyond surgical relief. The pain is a dull ache located in the loin. It may be due to tension and bleeding within the tumor. Severe renal colic may occur from the passage down the ureter of blood clots. The presence of a mass in the side is a relatively late manifestation, usually, and the chances for a cure are not as good as when the diagnosis can be made before the tumor can be recognized by palpation.

Bone metastases may appear long before there are any symptoms pointing to the kidney as the seat of the primary neoplasm.

DIAGNOSIS

At the present time great strides are being made towards educating the public and the profession regarding the early detection and diagnosis of the presence of cancer. Tumor clinics and cancer societies are doing invaluable work in this regard. People are learning that any bloody discharge or blood in any excretion is a danger sign and warrants immediate investigation. In this regard hematuria will send an increasing number of patients for urological survey and possible early detection of renal tumor. This is the only way that successful treatment can be had. The pitiful truth of most instances of renal tumor is that the condition is relatively hopeless when first seen by the physician. It is believed that increasing educational endeavors will bring in many early cases before it is too late for them to be helped. Certainly, the most important factor in the successful treatment of renal tumors is early diagnosis.

Retrograde pyelography is the greatest aid in the diagnosis of renal tumor. It is important that cystoscopy be done while the patient is bleeding from the tumorous kidney. The source of the blood in the urine is accurately determined when clots are seen to come from the orifice on the affected side. Pelvic and calyceal deformities which in early cases may be very slight, are more clearly shown by retrograde pyelograms than by excretory urography. The latter is of value mainly as a corroborative procedure. Both methods should be employed, as with most instances of major kidney pathology, where surgery is to be considered. Valuable information concerning renal function may also be obtained by intravenous urography.

CHARACTERISTIC FINDING

The most characteristic finding on the retrograde film is "spider-leg" deformity resulting from compression of the pelvis by the mass. It is possible for a



CASE III J. M.
Male Age 68

Intravenous pyelogram showing very large left kidney. Tumor in lower pole. Retrograde pyelogram impossible, due to clots in the left ureter. Nephrectomy followed by deep X-Ray therapy. Death two and one half years after operation from metastases to hip and lungs. Pathological diagnosis hypernephroid tumor, clear cell type.



CASE V E. G.
Female Age 65

Retrograde pyelogram showing compression deformity of left kidney. Tumor growth was found to involve the renal vein at operation. Death one year after nephrectomy from metastases to lungs and femur. Pathological diagnosis, papillary adenocarcinoma, clear cell type.



CASE VI R. M.
Male Age 43

Retrograde pyelogram showing enlarged, bizarre left kidney. Tumor located in the lower pole. Death one year after operation from metastases to spine and lungs. Pathological diagnosis hypernephroid tumor, clear cell type.



CASE VI

Left kidney sectioned, showing tumor at lower pole.

large tumor to be present in the lower pole with little or no pyelographic changes. Those in the upper pole usually produce compression deformities at an earlier date.

Lowsley and Kirwin list the following as the most common X-Ray findings:

(1) Enlargement and distortion of the kidney shadow.

(2) Obliteration or abbreviation of the major or minor calyces or both, or elongation with narrowing (less often with dilatation) of one or two of the major calyces (due to pressure of invasion of the calyces by the tumor.)

(3) Filling defects of the renal pelvis (due to invasion of the pelvis by the growth.)

(4) Displacement of the pelvis laterally, medially, downward, or rarely, upward.

(5) Displacement of the ureter medially or laterally (in case of large growths.)

The conditions most likely to cause confusion are:

(1) Polycystic disease.

(2) Solitary renal cyst.

(3 Carbuncle.

(4) Cortical or perinephritic abscess.

(5) Tuberculosis.

(6) Non-opaque stones.

(7) Retroperitoneal tumors.

When surgery is being considered, after the diagnosis of renal tumor has been made, these points are of the utmost importance and must be accurately determined:

(1) The presence or absence of metastases.

(2) The function of the opposite kidney.

(3) The general condition of the patient.

The case is operable if there are no demonstrable metastases; if the opposite kidney has a good function; and if the general condition of the patient is satisfactory. Anemia should be corrected, if present. Transfusions may be necessary.

PROGNOSIS

The prognosis of renal tumor is not very favorable. Without surgical removal a fatal outcome is inevitable. Nephrectomy before the spread of the tumor offers the only chance of cure. Unfortunately few cases are seen early enough for this to be achieved. And the immediate mortality after operation is higher than for nephrectomy for any other disease.

Irradiation is advocated as a palliative measure with inoperable tumors, and for the treatment of metastases occurring after nephrectomy. In certain cases X-Ray treatments seem particularly beneficial, and the patient's life can be prolonged for several years. One case in our series lived over five years in this manner.

TREATMENT

Surgical removal of the tumorous kidney is the treatment of choice if the case is considered operable:

(1) The general condition of the patient should permit surgery.

(2) No metastases are demonstrable.

(3) The opposite kidney has good function.

Radiation, although valuable as a therapeutic measure, is not curable and can not supplant nephrectomy. It has great value in the inoperable cases and undoubtedly prolongs the life of many such individuals. It is useful as a post operative measure, too, in some cases possibly preventing local recurrence. Preoperative irradiation causes temporary regression of huge tumors in some recorded instances, rendering then operable. Yet it is the consensus of most authorities that when operation is indicated it should be done promptly, and that valuable time should not be lost while a course of deep therapy is being administered. Usually about sixty days are lost in this way while a series of treatments are being given.

SOME CASES OPERABLE

Some cases appear to be operable, having fulfilled all the requirements incidental to permitting nephrectomy, only to be found hopeless when the kidney is exposed. Involvement of pedicle vessels and lymphatics may be found.

All of our nephrectomies for renal tumors were by means of the retroperitoneal lumbar route, with the exception of one case where the transperitoneal approach was employed. In some instances the 12th rib was resected, effecting a more adequate exposure for the lumbar incision.

The mass should be handled very gently, and the pedicle should be lighted as early as possible so as to prevent the introduction of neoplastic cells into the blood stream. A blood transfusion is usually given previous to surgery and post operatively as indicated. Intravenous fluids are beneficial during the operation especially if the operation is prolonged. The blood pressure is thus sustained and postoperative shock is minimized.

CASE REPORTS

CASE I. R. R. H.

Male, Age 61

For several weeks this patient had been passing bloody urine which contained worm-like blood clots. He had noticed a mass in the left side for several months but paid no attention to it. Upon cystoscopy clots of blood were seen to come from the left orifice. Retrograde pyelograms disclosed a large kidney with compression deformity of the pelvis and calices. Intravenous pyelograms disclosed a good function of the right kidney and diminished secretory power of the left kidney. There was no evidence of metastases and the case was considered operable.

Nephrectomy was performed with spinal anesthesia. The kidney was very large and the tumor in-



CASE VII E. W.
Female Age 59

Retrograde pyelogram showing compression deformity of pelvis and calices of left kidney. Operation refused. Deep X-Ray therapy instituted. Patient lived a little over five years. Autopsy performed. Diagnosis; papillary adenocarcinoma, clear cell type.

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volved the lower pole. The Pathological diagnosis was hypernephroma (Clear cell type.)

This patient was alive and well and without complaint about two years after the operation. Since that time he has not been heard from.

CASE II. M. S.
Male, Age 60

This patient had a painful mass in the right side. There was an appreciable amount of hematuria. The urine had contained blood periodically for some time. The pyelograms suggested renal tumor.

Right nephrectomy was performed by the transperitoneal route. The kidney was greatly enlarged and densely adhered to adjacent structures. Pathological diagnosis was hypernephroma. No follow up record was obtainable but it is thought the patient died less than a year after operation.

CASE III. J. M.
Male, Age 68

This man had been suffering from hematuria for several months, and when first seen was in great pain from worm-like clots which filled the left ureter and bladder. The left kidney was very tender and painful and was enlarged. It was impossible to pass a ureteral catheter up the left ureter due to it being packed with clots. A retrograde pyelogram of the right kidney was normal. Intravenous pyelograms showed an enlarged left kidney with a bizarre enlargement of the lower pole. The pelvis and calices had not yet been compressed by the tumor growth. The case was considered operable, and the left kidney was removed under spinal anesthesia. The convalescence was uneventful. A course of deep X-Ray therapy was given following the operation. However, in a few months metastases appeared in the right hip and he died two and one half years after operation. The pathological specimen was diagnosed as hypernephroma.

CASE IV. DR. H.
Male, Age 64

Tumor mass in the left side with the classical symptoms of pain, and hematuria. Active bleeding was taking place from the left kidney. There were many worm-like clots.

Nephrectomy was performed under spinal anesthesia. The pathological diagnosis was hypernephroma. No accurate follow-up record was obtainable but it is thought that this patient died about one year after operation.

CASE V. E.G.
Female, Age 65

This woman complained of painful mass in the left side and hematuria for eight months. Urological investigation showed active bleeding from the left kidney and pyelograms disclosed an enlarged left kidney with compression deformity of the pelvis and calices. The case was considered operable and left nephrectomy was performed under spinal anesthesia. Tumor growth was found to involve the renal vein. The pathological diagnosis was papillary adenocarcinoma, Grade III, clear cell type. She died less than a year after operation with metastases to hip and lungs.

CASE VI. R. M.
Male, Age 43

This patient complained of backache, mass in the left side and bloody urine. Blood clots were seen to come from the left kidney upon cystoscopy. Retro-

grade pyelograms showed an enlarged left kidney with compression deformity of the pelvis and the calices. Intravenous pyelograms revealed a good function on the right side. There was no demonstrable evidence of metastases. Operation was performed with resection of the 12th rib. A large tumor was present at the lower pole. The convalescence was uneventful. Pathological diagnosis was hypernephroma, clear cell type. This patient died of metastases to the spine and lungs approximately one year after the operation.

CASE VII. E. W.
Female, Age 59

A large mass in the left side for one year had been noticed by this patient. Although it was growing rapidly she did not consult a physician until hematuria and pain appeared, and she had been bleeding for two weeks before medical advice was sought. When examined with the cystoscope blood clots were seen to come from the left orifice. Retrograde pyelograms revealed marked compression deformity of the pelvis and the calices. Metastases were not demonstrable yet the mass extended well up above the margin of the ribs and seemed fixed in position. The case was considered operable and surgery was advised, but was definitely refused. Deep X-Ray treatments were started and were given periodically during the next five years. During this interval at total of 15,200 Roentgen units at 220 K.V. were given. In the meanwhile she enjoyed good health and it was only during her last few months that she became weakened and incapacitated. She lived five years and one month from the time that she was first seen. An autopsy was performed and a huge degenerating tumor of the left kidney was found. There were metastases to the liver and lungs. The pathological diagnosis was papillary adenocarcinoma, clear cell type.

SUMMARY

Renal tumors in adults are being encountered more often now than in previous years, due to improved diagnostic measures. The outlook for such cases, however, is dismal as the prognosis is very poor. Despite the best of modern treatment consisting of surgery and the judicious use of X-Ray therapy, there are few five year cures. The distressing truth is that most cases are hopeless when first seen by the physician. A mass in the side has usually been noticed for some period of time previous to the patient consulting his doctor. Even hematuria, if the bleeding is not profuse, will often be treated by home remedies and procrastination. Pain will often send the patient to the physician more readily than will the presence of a mass in the side or blood in the urine.

Only by the continuing efforts towards educating the public about the seriousness of blood in any body excretion will the early detection of kidney tumor be brought about. Complete urological investigation is imperative in all cases of hematuria.

In cases which are considered operable, prompt nephrectomy is indicated. Radiation may be of benefit in the inoperable cases and as a post operative measure. In some instances it may be used before surgery, advantageously.

Seven cases of adult renal carcinoma are reviewed. One lived five years and one month after the institution of X-Ray therapy. She had refused operation. One case was alive and well and without complaint two years after nephrectomy, with no follow-up record available afterwards. The other five died in from one to two-and-one-half years, approximately.

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RECENT CONCEPTS IN THE TREATMENT OF WHITLOW (BONE FELON)

By W. E. Lockhart, M. D.
Alpine, Texas

Minor surgery of infections has undergone radical revision since the effectiveness of antibiotics has become established. This principle is well illustrated in the management of infections of the distal phalanx. Accordingly, we are obliged to bring our thinking and acting up to date.

Before the advent of antibiotics, infections of the volar portion of the distal phalanx (whitlow, bone felon) were treated hopefully by rest, elevation, heat, hypertonic (magnesium sulfate) soaks, analgesics and early and often repeated incisions. The infectious process, often of mysterious origin, developed as a cellulitis becoming an abscess that was in reality a carbuncle and extended deeply to the bone, resulting in osteomyelitis. Because of high vitality of the volar skin, spontaneous drainage was slow in developing, and after incision the skin opening had a tendency to heal before bone destruction and drainage had ceased, necessitating repeated incisions. It was not uncommon for a whitlow to drain pus for several months. Tissue destruction was often considerable, resulting in deformity with a tender scar adherent to sensitive periosteum or anesthetic skin from nerve injury.

INCISION DESCRIBED

The incision most often employed was described as a "hockey-stick" incision, designed to pass longitudinally to one side of the mid-line, and if tissue swelling were unusually intense, this incision was occasionally repeated on the other side, resulting in what was described as a "fish-mouth" incision. As originally conceived these incisions were logical, but many surgeons did not heed the caution of keeping the incision mediad of the blood vessels and nerves, which are located laterally in the finger. Many surgeons made what were in reality lateral incisions with the idea of preserving the tactile surface of the palp. Blood vessels and nerves were often damaged. Nowhere in surgery does one drain an abscess thru the principal blood vessels and nerves.

It has been my experience that if penicillin is given in adequate dosage, begun early and continued for an adequate period of time, most whitlows will subside in the stage of cellulitis and heal without abscess formation and drainage. It has also been my experience that if the early stages of the process are neglected and abscess formation has occurred, penicillin without surgical drainage is not adequate, although after surgical incision healing is tremendously hastened by the use of penicillin. Second incisions have not been necessary in my experience.

DRUGS LISTED

In treating a whitlow I administer to an adult 300,000 units of depo-penicillin every 12 hours for at least 5 days, and in conjunction with this prescribe a sulfa drug in adequate dosage every 4 hours for the same length of time. **A. S. A.** Compound with codeine (½ grain) is given as necessary for pain. The barbiturates are used to allay nervous tension. If the response to these drugs is not dramatic in twenty-four hours, or if I believe abscess formation has occurred, incision and drainage is instituted. At this time, patient is given a barbiturate and placed at bed rest. The skin is prepared using zephiran solution followed by tincture of merthiolate.

The four nerves of the finger are blocked at the middle of the proximal phalanx, using not more than ten cubic centimeters of a 2% Procaine solution that contains no vasoconstrictor. The incision is placed longitudinally avoiding the tip of the finger distally, avoiding the nerves and blood vessels laterally and not extending proximally to the skin fold. Often the incision is centered over a point of impending spontaneous drainage in a neglected case. Whether the incision is in the middle of the finger or to one side is of little importance, since the sides of the fingers are as useful to the patient as the middle. The incision extends deeply to the bone, and a hemostat is used to spread the incision deeply to facilitate drainage. A simple loose bandage is applied.

SUMMARY

In summary, since the advent of effective antibiotics we are much slower to incise an infection, but if abscess formation has occurred surgical drainage is still required. The duration of whitlow is much shortened, and the end-results much better, plastic repair of the residual damage being seldom required.

INTRAVENOUS CALCIUM GLUCONATE IN PLEURITIC PAIN

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Surgery Operation Televised In Color

Philadelphia.—A surgical operation has been shown in color television for the first time, opening a new field of medical instruction.

The demonstration transmitted over a closed wire circuit, was of the birth of a baby girl by caesarian section to a 23-year-old woman.

While Dr. George Hoffman, 37-year-old surgeon, delivered the 7½-pound baby in the University of Pennsylvania Hospital, nearly 100 physicians and internes watched at three color-television sets in a nearby auditorium.

The reception was clear and came through in natural colors without distortion. Phyisicians in the audience said it gave a better view of the operation for students than they would have had in the delivery room itself.

But engineers emphasized that the showing was made through a closed circuit and not by the usual broadcasting methods. They also pointed out that the receiving sets were especially constructed for the wired reception and not for receiving regular broadcasts.

Dr. I. S. Ravdin, head of the university's surgery department said the demonstration opened the way for a new field for instruction.

"The color television provides a sense of depth which is vital in teaching surgery." he explained. "In the past with black and white reception, you could not see the deeper recesses of the body. Color also permits the observance of changes in human tissue during the course of an operation. This is vitally important to both surgeon and patient."

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Founded on that high note of devotion to duty and self-sacrifice, the Corps has again and again served its country well in time of stress, and has in time of peace formed a part of that professional army which wages unrelenting war on disease and suffering, a war that recognizes no armistice.

The complex Medical Department of today, with its allied professional and administrative sections, is a far cry from that simple beginning, but its purpose knows no change.

The magnificent record established during the last war made the caduceus a shining badge of honor. Never in history has an Army been so well cared for as were our troops. Both mortality from wounds and incidence of disease reached a low point that would have been deemed impossible a few years back. And the follow-up care of wounded men did not stop with the saving of life—it accomplished miracles in restoring the livable-ness of life.

Work has not lagged since the close of the war. Research, study, training go forward so that the Army Medical Department may not only serve the men and women in uniform, but add to the total of medical skill and knowledge.

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"It is concluded that accumulation of ascities and edema in cirrhosis is primarily due to diminished ability to excrete sodium. This may be partially overcome by (intravenous) administration of albumin or mercurial diuretics and prevented, in part, by use of a low sodium diet."—Faloon, W. W., Eckhardt, R. D., Cooper, A. N. and Davidson, C. S., Am. J. Med. 5;4:623 Oct.), 1948.

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1. Brewster, J. M.: U. S. Nav. M. Bull. *49*:1, 1949.
2. Murray, H. G.: Indust. Med. *18*:215, 1949.

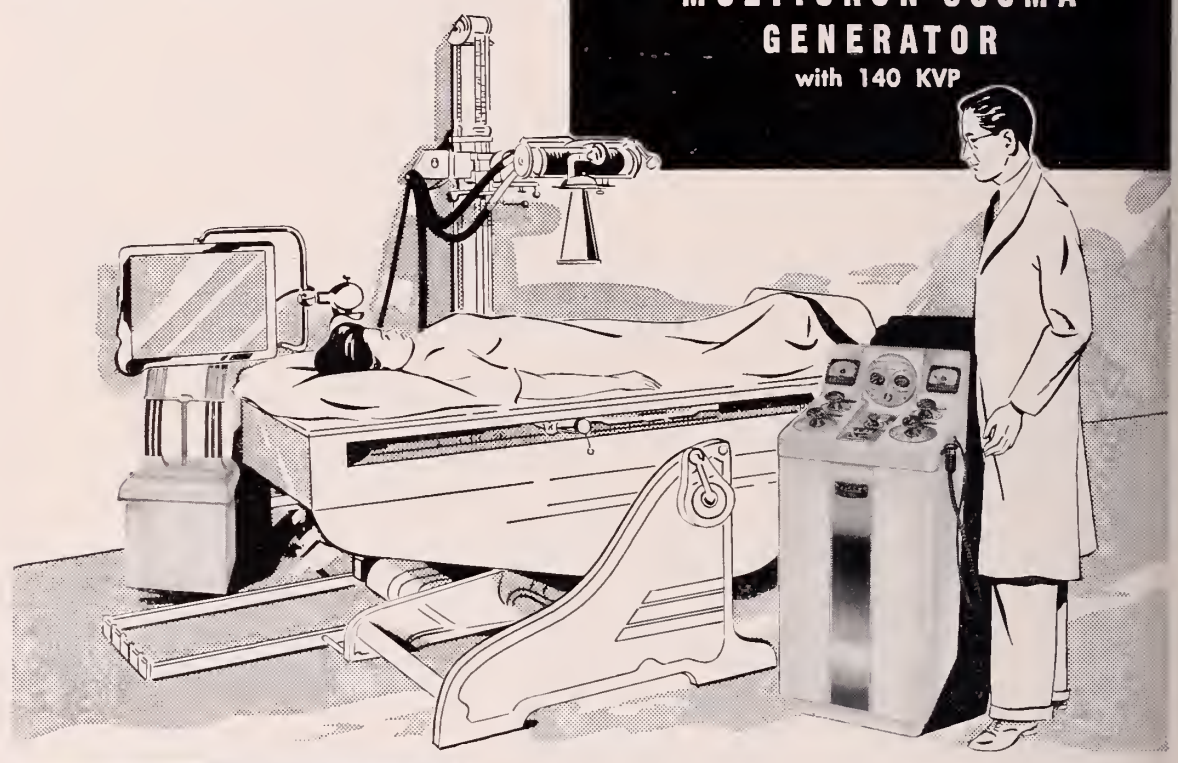
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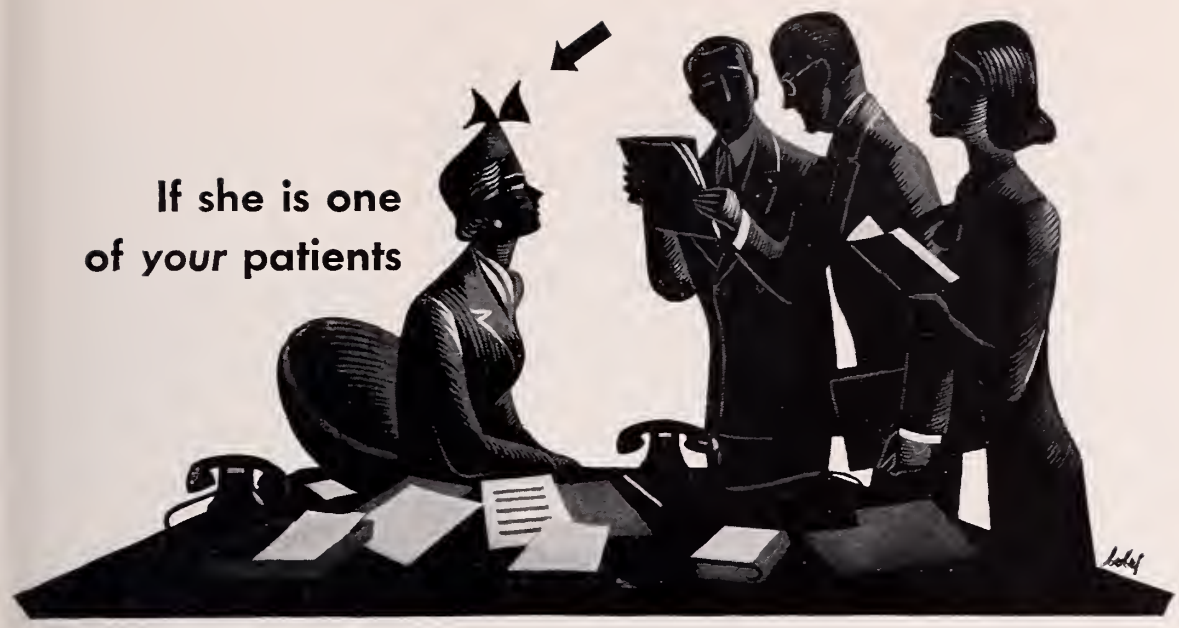
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THE FUNCTION OF THE WOMEN'S AUXILIARY



Three outstanding members of the highly active Women's Auxiliary of El Paso County Medical Society are shown above. They are, from left, Mrs. Robert F. Thompson, councilwoman to the Texas State Medical Auxiliary; Mrs. J. Leighton Green, president of the Women's Auxiliary of El Paso County Medical Society; and Mrs. George Turner, treasurer of the National Women's Medical Auxiliary.

To understand the function of an organization such as the Medical Auxiliary, one cannot do better than to review the objectives and the activities of the El Paso County Medical Auxiliary. This society has an active membership of one hundred and forty-two and is proud to include in its enrollment the treasurer of the National Auxiliary, Mrs. George Turner, and the councilwoman to the State Medical Auxiliary, Mrs. Robert Thompson. Mrs. J. Leighton Green as president ably co-ordinates the local activities.

The local society sponsors a Nurses' Scholarship and Assistance Fund. The purpose of this project is to award a scholoraship to the outstanding student of nursing each year, and to lend assistance to student nurses. Miss Belen Gonzalez was the recipient of the award this year. Further, as a memorial to its deceased members, the society contributes annually to the Library Fund, the Medical Students' Loan Fund, and the Widows and Families of Deceased Physicians Fund.

FIVE OBJECTIVES

The Medical Auxiliary has five prime objectives which are the basis for its program:

1. To extend the aims of the medical profession to all organizations which look to the advancement of health and health education.
2. To cultivate friendly relations and promote mutual understanding among physicians' families.
3. To participate in any endeavor on the request of the Medical Society, whether at the national, state, or county level.
4. To assist in the entertainment at all conventions sponsored by the various Medical Societies.
5. To co-ordinate and advise with any other organization concerning the programs which pertain to health and humanitarianism.

ONE-ACT PLAY

In order that the members have these objectives clearly defined, at the El Paso Auxiliary's October 10th Meeting at the Turner Memorial Home, Mrs. H. D. Hatfield wrote a clever, one-act play, entitled, "Rehearsal for Duty," which was presented as a part of the school of instruction program. This school of instruction program is part of the Texas state program intended to co-ordinate the activities of each individual county Auxiliary. On November 14th the legislative chairman, Mrs. John Peticolas, presented to the Society and its special guests, the El Paso Dental Auxiliary, Dr. Celso C. Stapp, who outlined the newest developments in socialized medicine.

The Medical Profession in general realizes that the Auxiliary is a well-defined and integral part of its Medical Society. This is especially true in these days of political strife. The Auxiliary, functioning as a unit, has done a tremendous amount of work in bringing before lay organizations the profession's viewpoints on the highly controversial subject of socialized medicine, and will continue to do so. In view of this fact, it is necessary that the activities of both societies be closely and adequately co-ordinated.

NEW OFFICERS

The officers for 1949 and 1950 are: Mrs. J. Leighton Green, president; Mrs. Louis Breck, president-elect; Mrs. Delphin von Briesen, Mrs. Newton Walker, Mrs. Joe C. Carter, first, second, and third vice-presidents; Mrs. Leigh Wilcox, corresponding secretary; Mrs. Clement Boehler, recording secretary; Mrs. M. S. Hart, treasurer. Directors are: Mrs. A. D. Long, Mrs. J. J. Gorman, Mrs. George Turner, and Mrs. H. H. Varner.

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Southwestern Medicine

Journal of
SOUTHWESTERN MEDICAL ASSOCIATION
and
EL PASO COUNTY MEDICAL SOCIETY

VOL. XXXI JANUARY, 1950 No. 1

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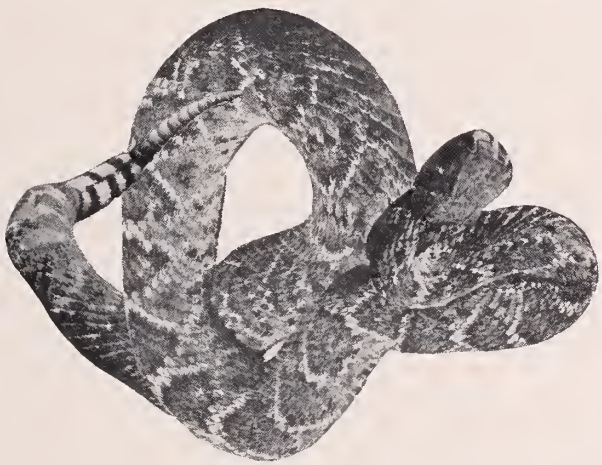
TREATMENT OF SNAKE BITES

Russell Holt, M. D.
El Paso, Texas

Even though it has been twenty-two years since Jackson[5] and Crimmins[2] published their work advocating radical changes in the treatment of snake bites, there still remains much confusion about the first aid and final procedures one must observe to save a life from venom poisoning. To most successfully treat cases of snake bite, one must know the types of snakes responsible for poisonous snake bites, the physical properties of the venom, the response of the tissue, and the most effective medical therapy currently known.

DISTRIBUTION OF VENOMOUS SNAKES

Practically every portion of the United States is inhabited by poisonous snakes, all of which may be classified in four types. Three types belong to the viper family including the Rattlesnake, the Water Moccasin and the Copperhead Moccasin.[3] The fourth type is the brightly colored Coral Snake which belongs to the same family as the Old World cobras and inhabits the southern portion of the United States including the Mexican border. Inasmuch as the Water Moccasin, the Copperhead Moccasin and Coral Snake are rarely seen in the Southwest, the Rattlesnake is responsible for the major portion of our poisonous snake bites. Of the several species of rattlesnakes found in the Southwest, the one best known is the Diamondback Rattlesnake (Crotalus Atrox.) This snake is large, very irritable and ranks first in the number of fatalities inflicted.[3]



TEXAS DIAMOND-BACK RATTLESNAKE (CROTALUS ATROX)

Found in arid regions from Texas to California.

PHYSICAL PROPERTIES OF VENOM

The venom from the rattlesnake is composed largely of albuminoids[4] and lacks the abundance of neurotoxin found in the poison of some other snakes. The effect upon the tissue is very irritating, causing a proteolytic and cytolytic action. Due to the proteolytic action, large sloughs are produced especially at the location of the bite. The cytolytic action produces hemolysis of the blood, a very important and serious effect. Other less important enzymes are known to exist, further irritating the tissue.[6]

TISSUE RESPONSE

The tissue response to the snake venom follows a characteristic pattern. Due to the extreme irritation, large quantities of lymph are released to dilute the toxin. This reaction causes marked swelling and pain, a characteristic of poisonous snake bites. The excessive swelling is partly responsible for the slow absorption of the venom which if allowed to remain in contact with the tissue will cause necrosis or autolysis. Care also must be exercised to combat bacteria, especially B Welchii,[5] which are present in the wound and responsible for most of the delayed deaths that occur.

The flow of the venom to various parts of the body usually follows the vessels and channels of the lymphatic system. In man, where there is considerable subcutaneous fat, the lymph vessels and channels pass through the fat and areolar tissues up to the elbow or to the axilla before the vessels pierce the deep fascia to the glands. In the lower extremities these channels pass through the deep fascia at the knee and at the inguinal region.[4] Observation indicates the venom moves into the abdomen from the lower extremities and into the chest and neck from the upper extremities, due to gravity influences on the flow of venom through lymphatic channels.[4] Fortunately, snake bites usually do not penetrate the deep fascia of man which, as indicated below, is of tremendous importance when applying the tourniquet after a snake bite.

MORTALITY FROM RATTLESNAKE BITE

Estimates indicate more than 1,500 individuals are snake bite victims in the United States each year. The prognosis for each victim is influenced in a large measure by the location of the bite. Fortunately, most bites occur on the feet and legs where treatment is the most successful. The hands and arms are second in frequency of snake bites received but are a more serious location than on the feet and legs. Wounds of the face or body are extremely serious in that the victim may die within a few minutes or even seconds. When a sizeable dose of venom is injected into a vein, death may follow instantly. Usually death occurs from 36 to 48 hours after the bite. If a death occurs after 27 hours of treatment, the cause is probably a secondary infection, especially gas baccilus.

For various reasons a rattlesnake may not inject the maximum portion of poison possible at a single bite. Nevertheless, the life of the victim is in danger. Studies indicate the average adult rattlesnake has about ten to twelve drops of venom, and when dried each drop produces 22 milligrams of venom.[2] The minimum lethal dose of rattlesnake venom for a dog is 1 milligram for each kilogram of body weight and for man, 1 milligram for each of 3 kilograms of body weight. Consequently, a rattlesnake may give in a single bite, 10 to 12 lethal doses for a man.

TREATMENT OF SNAKE BITES

For ages the treatment for snake bites has been confusing and influenced by superstition. In 1927, Jackson[5] and Crimmins[2] published the results of their reasearch which was enlightening. The physical properties of snake venom were described in addition to the effect on laboratory animals. Because of this work they were able to advance a new method of treatment, namely, suction or mechanical treatment, a procedure crudely practiced by primitive people for ages.

In Jackson's research, 23 experiments were performed to study the effect of venom on the dog. Methods of Treatment included the use of kerosene, potassium permanganate, x-ray treatment[6] and suction treatment. He was able to show that suction would remove venom from a wound, this being contrary to the experience of others, and also was able to show that a dog receiving four lethal doses could be cured without a slough if the proper treatment were given.

JACKSON'S TREATMENT

Due to the success of this method in treating poisonous snake bites, Jackson's Treatment merits careful consideration. Steps in administering Jackson's Treatment consist of:

1. Tourniquet — "Release all tight tourniquets and replace them by one just tight enough to obstruct the lymph circulation and not the free venous return of blood."[5] The tourniquet is applied 2 to 3 inches above the proximal margin of swelling and must not obstruct either the venous or arterial flow. A tourniquet properly applied will not require loosening at intervals.[5] A tight tourniquet fails to serve the purpose for which it is intended. It prevents the flow of venom proximally but also slows up the outflow of lymph which is necessary to dilute the venom and to retard its absorption. A tight tourniquet is even worse than none at all in that it may cause gangrene and favors more rapid autolysis of tissue due to preventing lymph formation. Amaral in his chapter[6] on the treatment of snake bite condemns its use but later he is reported to have used it in some cases. Allen still thinks the tourniquet, as now used, is more harmful than good.

SURGICAL PROCEDURE

2. Prepare the area of the snake bite for a surgical procedure.

3. Incise the wound one-fourth inch deep connecting the fang puncture. Then make another incision perpendicular to this incision forming a cruciate wound.

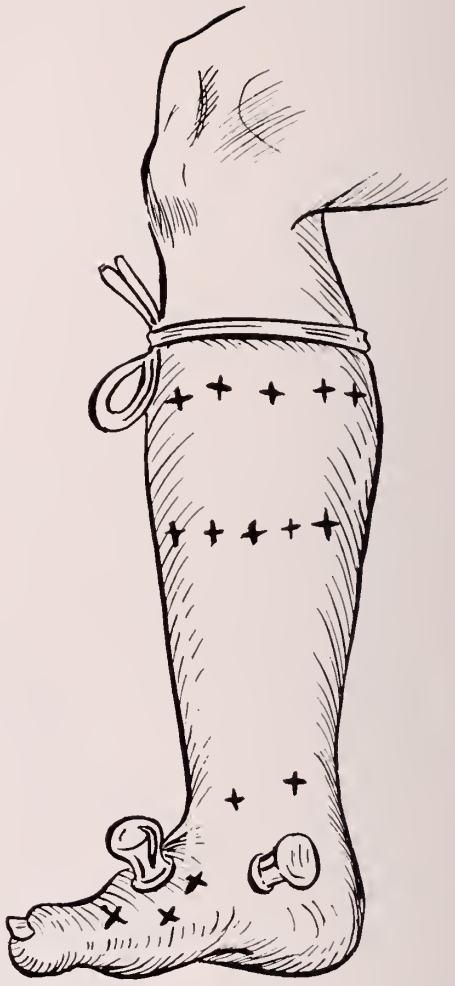
4 Apply suction on the wound twenty minutes of each hour for 12 to 18 hours. Ususally 10 to 12 suction cups are needed to properly treat a patient, and for best results the cups should be moved around to the locations in greatest need of assistance.

The type of suction cup generally used is one of the old B. D. suction cups used in the treatment of renal disease by cupping. There are several rubber types on the market which are entirely satisfactory. Also, a cup may be made by placing a bulb on an ear speculum.

5. Give Antivenom if available. Five to six ampules are required at once, and then repeat with two ampules every four hours as long as necessary. In small children and in toxic or shocked adults, antivenom is extremely valuable although the required dose is larger than is usually considered.

CRUCIATE INCISIONS

6. Surround the proximal margin of swelling with cruciate incisions one-fourth inch long and place them about one inch apart and one-fourth inch deep. If the swelling continues proximal reapply the tourniquet above it and make a new circle of incisions and start the suction. If pools of lymph are noted at any one point, make a cruciate incision over it and start suction. All incisions are to receive suction 20 minutes of each hour for 12 to 18 hours or as long as there is any swelling.



Treatment of lower extremity bite showing two suction cups in place and the cruciate incisions in proper locations for effective suction. The upper circular row of incisions were made 4 hours after treatment had started, and when the swelling began to extend upward requiring elevation of tourniquet.

7. Hot compresses of magnesium sulphate are kept on the wound when suction is not in progress.

8. Blood transfusions are given when needed.

9. Treat shock by accepted methods until it is controlled.

10 "I should like to stress the importance of colonic irrigations of salt and soda solutions."[5]

Allen in reporting on his work favors freezing of the injured part. This slows absorption and serves as an anaesthetic for excision or amputation to remove the area injured. Not only does he not recommend the tourniquet, but instead condemns its use. His treatment appears radical, and I believe if he would use the suction treatment as described above he would prefer it in most cases. His treatment might be of more value where neurotoxins are present.

PROGNOSIS

A study of snake bites in Texas shows that of 83 cases treated with antivenom, five died resulting in a

mortality of 6.0 per cent. If antivenom could have been given early in all cases, the mortality probably would have been reduced. Of 67 cases treated with other methods (the type of treatment was not mentioned but stated they did not get antivenom) 23 died making a mortality of 34.3 per cent. This undoubtedly included some who died instantly, and did not have time to receive any kind of treatment.

In Robert B. Green Memorial Hospital, San Antonio, Texas, where Jackson did much of his experimental work, one death occurred in 1932, the first death in 200 admissions for snake bite. In 1940 they had treated about 900 cases admitted for rattlesnake bite without a death.[7] This record seems convincing that this type of treatment is the most valuable one known. Most deaths from snake bite result from insufficient rather than too much treatment.

SUMMARY

1. Although all four types of poisonous snakes are found in the Southwest, the Diamond-back Rattlesnake leads in fatalities due to snake bite.

2. A knowledge of the physical properties of venom and its effect on tissues is the basis for the treatment of snake bites.

3. The mortality from snake bites depends upon the amount of venom injected into the tissue, the location of the bite and the type of treatment given.

4. Experimental work and actual hospital practice indicate Jackson's Treatment for snake bite, as outlined in this article, is the most valuable.

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NEW OFFICERS INSTALLED IN CIUDAD JUAREZ

New officers of the Ciudad Juarez, Chih., Medical Society, installed at a recent dinner in Casino Juarez are: Dr. Jesus Dominguez S., president; Dr. Efren Saldivar, secretary; Dr. Alberto Gemoetz, treasurer; Dr. Rodolfo Vera B., first vice-president; Dr. Francisco Gutierrez S., second vice-president; and Dr. Ramiro Vera V., third vice-president.

At a recent meeting of the Northern States of Mexico Medical Society in Durango, Juarez physicians who attended urged that Ciudad Juarez be selected as the site for the next meeting of the Northern States Society.

DR. LUIS VALDES,
Ciudad Juarez, Regional Editor.

REPORT OF THE BOARD OF MANAGERS OF SOUTHWESTERN MEDICINE

Presented at the annual meeting of The Southwestern Medical Association in Albuquerque, New Mexico on November 12, 1949, and at the business meeting of El Paso County Medical Society on December 13 in El Paso.

The Journal, SOUTHWESTERN MEDICINE, is now on a firm financial and editorial foundation. The current circulation is 2149. The size of the journal has grown from twelve pages to thirty-two pages. It is now being edited by Dr. Lester C. Feener of El Paso, Texas. The financial status of the journal is that it is being published by Mott and Reid, a public relations agency in El Paso. They published it originally at a loss, later on broke even, and now are netting approximately $150 a month for themselves out of this publication. This is a very small reward for the amount of time and effort they are putting in on the journal. The editor does not receive any compensation nor does anyone else connected with the journal.

The Board of Managers wishes to emphasize again the importance of the New Mexico Medical Association again making SOUTHWESTERN MEDICINE its official publication. This would greatly increase the size of the journal because of additional advertising which could be obtained from the AMA through their block advertising system. However, if this is not accomplished the journal will still be published as it is and should continue to grow.

SOUTHWESTERN MEDICINE reaches all 574 members of the Arizona Medical Association, all 475 members of the New Mexico Medical Society, and all 484 qualified physicians in West Texas in a radius from El Paso running through Del Rio, San Angelo, Abilene and Lubbock and including those cities.

In addition SOUTHWESTERN MEDICINE goes to 495 qualified physicians in the northern Mexican states of Chihuahua, Sonora, Coahuila and Durango. We are virtually the only American journal covering this group. Moreover SOUTHWESTERN MEDICINE goes to 142 leading dentists in the Southwest.

There is one important point, not always appreciated, to be emphasized concerning SOUTHWESTERN MEDICINE. Excepting the Journal of the AMA, this is the only medical publication serve all or more than a section of this great and homogeneous area of range, desert and mountain, with cities and towns at long distances from each other.

Moreover, SOUTHWESTERN MEDICINE is the only journal designed to serve this area. Because of the far distances, the ordinary daily discussion and scientific talk exchanged between physicians in more thickly settled areas is greatly limited in the great Southwest. SOUTHWESTERN MEDICINE is published to fill this gap; and from the enthusiastic response and support of our readers there is little doubt our journal is succeeding in this important effort.

SOUTHWESTERN MEDICINE is listed in the Index Medicus of the American Medical Association.

LOUIS W. BRECK, M. D.
Chairman, Board of Managers

PRURITIS ANI

S. Milton Ramer, M. D., Watts Clinic,
Silver City, N. M.

There is hardly a symptom in all medicine which is more annoying than pruritis ani. Who among us can recall the painfully irresistible tendency to scratch an already irritated anus or the annoyance of attempting to treat a patient with this unfortunate complaint. Unless it is approached in a logical, rational and painstaking fashion, its refractoriness to casual treatment will continue to be a source of annoyance to both practitioner and patient.

The many etiologic agents ascribed to this symptom and the diverse forms of treatment prescribed lend eloquent testimony to the importance this symptom has assumed. Pruritis ani can be a disabling sympton; it can be a painful symptom. The patient suffering from pruritis ani gets caught in the vicious circle of trying to relieve his irritation by scratching, the trauma of scratching causes more irritation and thus the more he scratches, the more he itches and the more he itches, the more he scratches!

Those of us who have had occasion to treat a number of these patients realize the necessity of the thorough investigation required to track down the etiologic agent even though our efforts may go unrewarded. Still, we must never cut corners or proceed in haphazard fashion with treatment, trying first one form and then another until the doctor is exhausted after all known forms of treatment are exhausted.

ETIOLOGY

Pruritis ani may be caused by or accompany every known anal, rectal or colonic disease, as well as many diseases affecting other organs more general in character. Therefore, no examination is complete without a proctoscopic examination. Only too often cryptitis, proctitis, papillitis, ulcer, fissure or fistula will be revealed during this type of examination, treatment of which will ofttimes clear up the pruritis.

In the female, naturally, a complete pelvic examination should be done as pathology of the female genital tract may be the cause of the pruritis. The numerous and varied etiologic agents suspected of underlying this symptom must all be considered if good results with treatment are to be expected. A careful and detailed history is essential in the approach towards proper evaluation of pruritis.

The most important causes to be suspected are (1) any disease of the anus, rectum and colon (2) any skin disease affecting the anal region as atopic dermatitis, contact dermatitis, food allergy (3) as a reflex from diseases of the bladder, prostate gland, uterus, ovaries and vagina (4) general or constitutional diseases (5) intestinal or local parasites (6) fungus infections (7) mechanical irritation from clothing detergents, soaps or moisture (8) poor or improper hygiene (9) psychogenic.

MUCH LITERATURE

The medical literature is filled with articles by reputable men in the various specialties who make the expressed or implied plea for converts to their method of approach and treatment on the basis of their printed successes. But one invites failure if he confines himself to one approach to this tantalizing symptom and neglects the several other routes to a possible successful cure.

Neither the allergist nor the psychiatrist nor the dermatologist can preempt the leading role in all cases. Yet they all play a part in the solution of this medical "whodunit," if it is to have a happy ending for the poor victim suffering with this symptom.

Among the diseases of a more general character which are frequently found to be causes of itching at the anus are (1) diabetes (2) malaria (3) nephritis (4) syphilis and (5) allergic diseases. The menopause is not infrequently responsible for anal and perianal itching in women during that period. In some cases excessive use of tobacco, caffeine containing beverages, condiments or other hypersensitizing substances conduces to the production of this symptom.

MECHANICAL IRRITATION

In some cases, simple mechanical irritation of the skin around the anus caused by the use of coarse toilet tissues or contact with certain prurogenic materials set up the intractable symptom. The act of defecation acts as a trigger mechanism in many of these patients. The presence of moisture in the anal area plays a most important role in the etiology of this complaint. Sweating, particularly in stout people, and in those who are forced to work in high temperatures such as engineers, stokers and the like, rates high in the list of frequent offenders that cause irritation.

I found pruritis ani a fairly common symptom among a large group of men who worked in a large railroad repair shop. In many cases, the symptom responded to simple measures, which will be outlined below. Those who remain seated at long intervals are included in this group also. One should not neglect to ask the patient how they wipe themselves after defecation. When on duty with the armed forces in New Guinea, I noted that the natives found it adequate to splash water on the anal region after defecation. I wonder how many cases of pruritis ani there were among them.

DIAGNOSIS

Many important leads can be elicited in the course of history taking. As I pointed out before leading questions as to occupation, method of wiping, time of day or night the symptom occurs, the existence of concomitant allergies will often establish important clues which will aid in diagnosis. The physical examination including proctoscopic examination may disclose local pathology which will underlie the pruritis. In most cases there is a history of a slight irritation at first. As the itching gains greater and greater attention, the patient attempts to relieve the itching by almost reflex rubbing or scratching which eventually terminates in traumatization of the epithelium.

Later the itching reaches the conscious level and results in a maddening, almost masochistic, type of scratching. A secondary dermatitis with marked hypertrophy, and with cracking and fissuring of the entire circumanal integument ensues. Later the skin becomes lichnified and thickened. The skin about the anus presents a greyish or whitish sodden appearance and a foul-smelling secretion may exude from the folds. Various pigmentary changes from depigmentation to hyperpigmentation may be noted. The attitude of the patient may be one of extreme agitation, tension, restlessness, depression or exhaustion from lack of sleep.

SPECIAL TESTS

Specific tests and examinations should be made to rule out monilia, trichophyton and pin worms. Some

men advocate culturing the organisms, usually streptococci, found in the crypts. Hirschmann used autogenous vaccines made from such cultures for treatment with good results. If an allergy is suspected, dietary control, elimination diets, patch testing or even skin testing may bring to light the cause of the itching. Two investigators analyzed thirty-eight patients with pruritis ani and found that ten had a family history and thirteen a personal history of allergy. Positive skin reactions were obtained in fourteen.

There are those cases which fail to reveal an etiology after the most painstaking search. We must declare them psychogenic in origin and we must let our medical judgment be our guide in deciding whether tapping their unconscious is worthy of trial. There are those who contend that fungi are the most frequent cause of the pruritis and consequently this group recommends bacteriologic studies for isolation of the offending fungus.

TREATMENT

Basically, the treatment of pruritis ani is the treatment of the underlying cause. If it is associated with a constitutional disease, this must be treated. Palliative treatment such as outlined below can be carried out during treatment of the systemic disease. If any anal or rectal disease, as listed above is discovered on examination, this must be corrected in order to insure the best results.

It is beyond the scope of this article to outline such treatment. Specific treatment can be given in those cases where parasites or fungi are isolated. For parasites, gentian violet by mouth is best. If an allergic background is brought out, then proper testing should be done using the type testing the examiner is best qualified to do or else the patient should be referred to a competent allergist.

Sometimes the busy practitioner dismisses the patient suffering with pruritis with an antipruritic ointment or a rectal suppository of some kind along with a shrug expressing utter hopelessness. I wish to stress the folly and futility of such behavior on the part of the physician. Not only will they not relieve the patient but in many cases local applications in the form of ointments, salves or creams will only aggravate the condition. A mild sedative by mouth is far more preferable than an ointment applied locally to the irritated anus.

SITZ BATHS

In the weeping, moist, exudative cases it is best to employ hot or cold sitz baths for at least 20 minutes, either plain or with potassium permanganate, linit or liquor carbonis detergens. Sometimes, ice cubes applied directly to the area will relieve the intense itching. Burow's solution in an aqueous solution of 1:20 or a properly diluted Domeboro solution applied to the weeping area tends to soothe and remove the inflammatory process. A little later as the acute process subsides, a shake lotion can be tried.

These can be plain or with a coal tar as liquor carbonis detergens added. The need for proper anal hygiene should be impressed upon the patient. Tap water enemas after defecation and at bedtime are advisable if the patient can take them.

Instead of toilet tissue the patient must use absorbent cotton moistened with tap water or hydrogen peroxide after defecation and wipe from side to side. To maintain dryness of the area, a most important requirement in treatment, a strip of absorbent cotton about one inch by four inches should be inserted in the cleft.

DUSTING POWDER

A dusting powder of equal parts of boric acid, starch and talc put on the cotton before insertion will help maintain dryness. The cotton should be changed after each defecation or about every three to four hours. It is wisest to forbid the use of soaps on the involved area until it is well on the way to recovery. As a general rule possible irritants such as alcohol, condiments, tea, coffee and spiced foods, should be prohibited. In those cases where allergy is suspected the antihistaminic ointments may be tried but these have proved disappointing in my experience.

OFFICE TREATMENT

For office treatment of weeping lesions the following dyes applied by rolling an applicator over the lesions are often helpful:

(1) Berwick's Dye
(2) Castellani's paint
(3) 2% aqueous basic fuchsin
(4) 3% gentian violet, 10% tannic acid, 1% pontocaine
(5) 2% gentian violet in 20% alcohol
(6) When not too acute 3½% tincture iodine followed by 10% silver nitrate, fan dry and cover with compound tincture benzoin application.

RADICAL MEASURES

In the case of the distraught, sleepless, agitated patient it may be necessary to resort to more effective or more radical measures. Injection of the oil soluble anaesthetics as Anucaine, Encupin or Quinocaine will give immediate relief for varying periods. At least 10 to 20 c.c. of the substance should be injected at one visit, preferably one side at a time, which is the method I use. Others recommend a quadrantic distribution of the injections. These anaesthetics not only serve to give local anaesthesia but they also relieve by relaxing the hypertonic sphincter. When all these measures fail to bring relief then the more radical techniques of undercutting and removal must be used. In the right hands and on the right patients these techniques are the only ones which will bring about the desired alleviation of the syndrome of pruritis ani.

SUMMARY

1. The importance of establishing the etiology of pruritis ani is discussed.
2. With proper diagnosis specific treatment will most frequently bring about a cure.
3. Various treatments are outlined.
4. The importance of dryness, drying agents and correct anal hygiene is stressed.
5. Office techniques such as the use of dyes and oil soluble anaesthetics are presented.

SIERRA COUNTY MEETING

The Sierra County Medical Society met recently at the home of Dr. and Mrs. W. L. Minear at Carrie Tingley Hospital in Hot Springs, N. M. The medical department of Carrie Tingley Hospital was also present.

A delicious dinner was served by Mrs. Minear. The scientific part of the program was given by Dr. Minear. The topic of discussion was clinical examination and evaluation of patients in the hospital. The auxiliary met in another room.

Those present were Dr. and Mrs. W. B. Cantrell, Dr. and Mrs. R. W. Fulwider, Dr. and Mrs. E. E. Hubble, Dr. and Mrs. H. B. Johnson, Dr. and Mrs. T. B. Williams, Dr. and Mrs. A. C. White, Rev. Boyd and Dr. Edna White, Dr. and Mrs. George Deyoe, Dr. and Mrs. F. M. Chasten, and the parents of Dr. Minear.

H. B. JOHNSON, M. D.
Regional Editor

SURGICAL MANAGEMENT OF DUODENAL ULCER

By Louis Bennett, M. D., Los Angeles, California

Presented before the Cochise County Medical Society (Arizona,) March 9, 1949.

Any discussion of the surgical management of duodenal ulcer should be prefaced with a definite resume of the accepted indications for surgical intervention in the overall management program of duodenal ulcer. This resume must be based upon the premise that the uncomplicated duodenal ulcer is basically a medical problem. The healing capacity of the stomach and



Figure 1

duodenum is demonstrated by Figure 1. This is a photograph of the resected portion of the stomach of a patient who had taken a strong caustic by mouth seven weeks prior to the operation. In the seven weeks the corrosive gastritis had healed sufficiently to result in practically complete obstruction of the distal half of the stomach.

The psychologic make-up of the ulcer patient and the effect of the pressure of modern living upon such an individual make-up have been emphasized as important factors in the etiology and re-activation of duodenal ulcer. These factors were very obvious in the experience of managing personnel with duodenal ulcer in the Armed Forces, and are well demonstrated by the following case:

A twenty-four year old, recently inducted man was admitted to the hospital four hours after sudden onset of severe generalized abdominal pain. Pain had been persistent. He had vomited once. There was no history suggestive of previous duodenal ulcer activity. He was fever-free. The abdomen was rigid with generalized and direct rebound tenderness. A diagnosis of perforated duodenal ulcer was made and the patient was operated upon. A frank perforation of a duodenal ulcer was found and repaired. The patient made an uneventful recovery, and after a convalescent furlough, it was decided that he should be returned to limited duty status. He was attached to the Base Hospital detachment for rations only in order that he could be maintained on a controlled diet. He remained symptom-free and was able to do practically full duty for almost a year. At that time he was alerted for transfer within two weeks to a much less desirable station. He was greatly concerned about the transfer and within the two weeks interval, he demonstrated such clinical evidence of reactivation of the ulcer that it became necessary to hospitalize him. He was studied on the medical service and was discharged from military service because of active duodenal ulcer. It seems more than coincidental that he developed the acute ulcer with perforation shortly after he was subjected to the pressure of army life, that he was able to adjust and carry on for almost a year while among friends and on a controlled dietary regime, but that he developed severe ulcer manifestations, when faced with the additional pressure of a transfer to a less desirable station and assignment. Unfortunately, there is not available follow-up information on this patient. It would be of interest to know how he reacted to the stress of meeting competition again in civilian life and occupations.

SOCIAL RESPONSIBILITY

It has been stated that relief from social and economic responsibility, if it were possible, would affect cure in a high per cent of all uncomplicated duodenal ulcers in patients with the psychologic make-up that favors ulcer development. Assuming that this is true, it must be remembered that it is seldom possible in our complex society for such an individual to bring about sufficient changes in these factors, without sacrificing his earning capacity, to produce a material influence upon his ulcer tendency. This is well illustrated by the following case:

A forty-one year old, highly emotional man, who is now under my care, first developed ulcer symptoms in 1938 and a definite diagnosis of duodenal ulcer was made in 1939. He changed his occupation in an attempt to get relief from his "nervous tension". He was not benefited by the change and in 1940 he entered the Forestry Service because it offered a quiet out-of-door life. In 1941 he was disqualified from



Figure II

this service because of his ulcer. He attributed this to the fact that he could not stay on a proper diet. Since then he has tried several types of work but with periodic bouts of severe distress. Except for the year in the Forestry Service, he has been on some type of medical regime. Recently he was offered the management of a stock farm on a share basis. He was very desirous of taking the offer because of the beneficial effect farm life would have upon his health and because he "was not getting ahead" in his present work; but after weeks of consideration, during which he suffered severe daily and nocturnal distress, he declined the offer because of the uncertainties involved. Obviously it is impossible for this man to alter sufficiently his social or economic status to have any bearing upon his ulcer activity.

THOROUGH TRIAL

Certainly every uncomplicated duodenal ulcer should have a thorough trial on a well controlled medical management program. However, if the response to medical management is not sufficient; and if the patient cannot adjust sufficiently to be able to follow comfortably a gainful occupation, surgical intervention may be considered. In this consideration the economic status of the patient may be an important factor. The occupations of some men are such that it is impractical or impossible for them to change their mode of living or to adhere adequately to a dietary regime. Also, it must be remembered that posterior ulcers that have penetrated deeply into the pancreas are very refractory to medical management. This type of ulcer is characterized by severe deep boring pain, often referred to the back and not relieved by food or anti-acids. One of the common pitfalls in ulcer diagnosis and management is failure to recognize and institute proper surgical management in this type of ulcer before the second serious complication of severe hemorrhage ensues. Surgical intervention may then be considered in these two types of otherwise uncomplicated ulcers under No. 4 below. Except for this category, the indications for surgical management of duodenal ulcer consist of certain definite complications. These complications are:

1. Acute perforation.
2. One or more massive hemorrhages.
3. Cicatrical pyloric stenosis.
4. Intractability.

and to these may be added:

5. Postoperative, symptomatic, anastomotic ulcer with or without reactivation of the duodenal ulcer.

SURGICAL INDICATIONS

These current surgical indications are the result of many controversies and some evolution within the profession; but they are quite generally agreed upon at the present time. They have not changed with the introductions of new surgical techniques nor with the reductions in surgical mortality. In the contemplation of surgical management of these complications, two things must be borne in mind by the surgeon; first, that any surgical procedure carries some risk; and second, that the very existence of the complication constitutes some threat to the patient's life. To relax the above indications means to subject the patient with an uncomplicated duodenal ulcer to an unnecessary surgical risk, and to withhold surgery when the indications are present allows the threat to the patient's life to remain unchallenged, or to increase, depending upon the complication. Proper application of this logic will save unnecessary operations, unnecessary complications and lives.

The surgical management of the complication of



Figure III

acute perforation may be dealt with briefly. Surgeons have been agreed for years that the surgeon's responsibility consists of closure of the perforation and the saving of the life if possible. The mortality rate varies in proportion to the time lapse between perforation and closure.

The introduction of antibiotic therapy has greatly enhanced the prospects of recovery. Thompson and Prout[1], in 1947, reported mortality rates of 4.7 per cent in perforations of under six hours' duration and 9.0 per cent when the duration was prolonged to twelve hours. McElhinney and Holzer[2] reported no deaths in perforations closed under six hours and 7.5 per cent deaths in perforations of six to twelve hours since the introduction of penicillin and sulfadiazine therapy. Early surgical closure of the perforation, closure of the abdomen without drainage, Levin tube suction to the stomach, adequate blood transfusion and antibiotic therapy, including streptomycin, constitute good surgical management of the acute perforation. Following recovery the patient should be managed on a controlled medical regime. Acute perforation frequently occurs with no previous ulcer history, and many patients have few or no ulcer symptoms following the acute episode. For those who develop further surgical indications, a curative operation of election can be done at a later time. The author has observed second acute perforations in the same patients. The incident of the second perforation certainly constitutes an indication for a curative operation of election following the recovery and rehabilitation of the patient.

COMMON PROBLEMS

Some of the common problems in the diagnosis and management of the acutely perforated ulcer might be mentioned:

One of the diagnostic dilemmas is the patient, usually a young man, who is seen soon after the sudden onset of severe constant upper abdominal pain, and who gives absolutely no history of previous ab-

dominal pain or distress suggestive of duodenal ulcer. The physical findings are those of an acute intraperitoneal involvement. The patient may not be in profound shock and some peristalsis may be heard. A very suggestive sign, if present, is partial relief by sitting up in a hunchback position. Free intraperitoneal air demonstrated by the upright and lateral decubitus films of the abdomen will clarify the situation, providing the diagnosis of acute perforation has been entertained in the differential diagnosis. However air or gas beneath the diaphragm is present in only from 60 to 80 per cent of the cases. Often the most detailed study leaves one in a quandary as to the exact diagnosis. If acute perforation cannot be eliminated with reasonable certainty, the surgeon may be forced to make such a diagnosis and open the abdomen. In six such cases, all men under thirty years of age, in the author's recent experience, acute perforation of a duodenal ulcer was found in four cases, acute infarction of the spleen in one case and in the sixth case, operated upon five hours after the sudden onset of the syndrome described above, a preoperative diagnosis of perforation of a duodenal ulcer was made and an acute suppurative appendicitis was found and removed. This brings up those similar cases in whom, because of localization of findings in the right lower abdomen, a preoperative diagnosis of acute appendicitis is made. At operation, usually through a McBurney incision, there is insufficient pathology in the appendix to explain the illness. Careful examination may demonstrate gastric content in the lateral gutter. With or without this demonstration, it then becomes necessary to close the McBurney incision and to make an adequate incision in order to expose and repair the perforation.

TENDENCY TO REVERT

Since the introduction of antibiotic therapy, there is a tendency in some clinics to revert to the discarded practice of doing additional surgical procedures at the time of closure of an acute perforation. In the author's opinion, simple closure of the perforation is the operation of choice. If any further surgical procedure is indicated, it should be done as an operation of election when the patient is properly prepared.

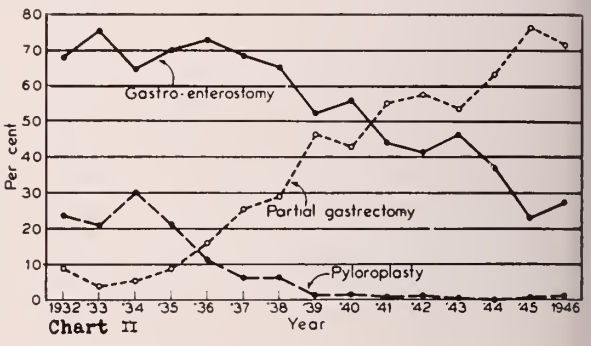
In the surgical management of the other complications of duodenal ulcer outlined above, the trend was toward subtotal gastric resection prior to 1945. For example, the following quotations are from the writings of my former senior, the late Dr. Vernon C. Hunt: [3, 4, 5].

1935—"I have seldom been forced to employ partial gastrectomy as a primary operation for duodenal ulcer - - -. Furthermore, few execute the operation of partial gastrectomy with a justifiable mortality rate for benign lesions of the stomach and duodenum."

1941—"It seems to me that the rationale of resection of the pyloric third or half of the stomach in many cases of duodenal ulcer is entirely sound, and that partial gastrectomy has attained a status of such height in the treatment of this surgical disease that its eminence can no longer remain obscure."

1942—"Suffice it to state that for the most part they (conservative operations) have been superseded by the operation of partial gastrectomy."

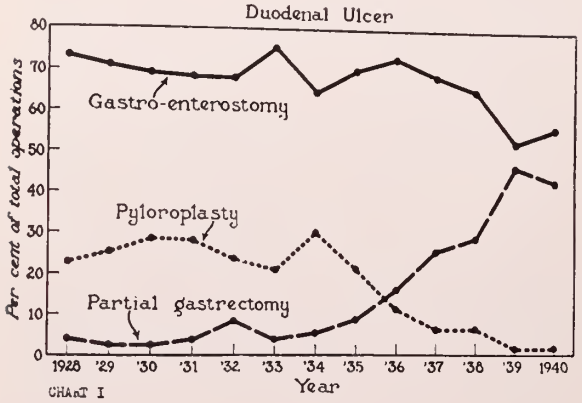
The types of operations performed for duodenal ulcer at the Mayo Clinic for the years 1928 to 1940 and for the years 1932 through 1946 are presented in



Charts I and II respectively. This represented the surgical trend. However, since 1945 the works of Dregstedt and others have focused much attention on the resection of the vagus nerves in the surgical management of duodenal ulcer. This has added to the controversy of the selection of the surgical procedure of election.

BROAD EVALUATION

Since the present differences of opinion among individual surgeons rest between the elective procedures of vagotomy and partial gastrectomy, an attempt was made to determine a current, broad evaluation of surgical opinion by taking a poll of twenty-five surgeons. These surgeons are all highly qualified from the standpoints of training and experience in gastro-intestinal surgery, and they probably represent a cross section of the surgical opinion of Western United States. The method of conducting the poll was by personal contact, conversation or correspondence. The surgeon was asked simply to state his procedure of choice in elective surgical management of duodenal ulcer in young to middle aged patients, who were reasonable surgical risks. Poor risks and elderly patients were not included. The results of the poll are outlined in Chart III. It is obvious that



OPERATION OF CHOICE	NUMBER SURGEONS
SUBTOTAL GASTRECTOMY	18
VAGOTOMY	4
ANSWERS TOO QUALIFIED TO RECORD	3

CHART III

while resection is the opinion of the majority, and probably more so than it would have been a year ago, still there is not a unity of opinion among surgeons. One can easily verify this difference of opinion by a brief review of the current literature. Extension work is being done to determine the relative merits of the procedures, Mayer, Stein and Rosi [6, 7] have recently published two articles on their studies on vagotomy in the treatment of peptic ulcer. Their final summary was, "It is still too early to make a final evaluation of vagotomy in the treatment of peptic ulcer. Until more information is available concerning the incidence of recurrence of ulcer distress and the possible late sequelae, the use of vagotomy should be limited to clinical investigation with one exception. Complete vagotomy is the method of choice in the treatment of marginal ulcer following gastric resection." Certainly it becomes obvious that the selection of the elective operative procedure must represent some element of the arbitrary on the part of the individual surgeon today.

In order to properly evaluate the various operations for duodenal ulcer, the surgeon must be cognizant of the surgical aims, of what results to expect and of the risk involved in each type of procedure.

GASTRIC HYPERACIDITY

Gastric hyperacidity and hypersecretion are the rule in duodenal ulcer. The two controlling mechanisms of these factors are the psychic control by way of the vagus nerves and what has been called the humoral influence, the control of which is thought to be located in the prepyloric mucosa. The aim of the various surgical procedures that have been devised has been either to allow the ulcer to heal by control of these features, to excise the ulcer, or to both control hyperacidity and hypersecretion and to excise the ulcer.

The actual results accomplished by the various procedures are more difficult to determine. The too frequently reported development of an ulcer in or near the stoma, with probably reactivation of the duodenal ulcer following the indiscriminate use of gastro-enterostomy has thrown this operation into disrepute. However, there are still definite indications for posterior gastro-enterostomy. No attempt will be made to evaluate the late results of vagotomy because of the conflicting literature on the subject and lack of sufficient experience and follow-up on the part of the author. The end results of representative series of gastric resections have been recorded. Lewis and Lemon[8] reported follow-up results on 197 out of a series of 212 patients, upon whom sub-total gastric resection had been done at the Mayo Clinic for duodenal ulcer. Of the 197 patients, "83.5 per cent were well; 14 per cent required some restriction of diet and activity to remain well, and 2.5 per cent experienced symptoms of anastomotic jejunal ulcer. Anacidity, determined by a test meal, developed in 63 to 80 per cent of these patients after partial gastrectomy." Other statistics may be gleaned from the literature, but it would seem that these figures might represent the results that might be hoped for in this operation.

ESTIMATING RISK

In estimating the risk one must again look at the statistics. In view of the recent advances in chemotherapy, improved anesthesia, early ambulation and especially the present appreciation of the value of massive blood transfusions, it would seem that one should re-evaluate the risk of any surgical procedure today. Although these surgical adjuncts do not relieve us of the responsibility of meticulous surgical technique, with the addition of them we should be able to do major surgery with a lower mortality rate than we could five years ago.

The risk of gastro-enterostomy is generally accepted as 1 to 2 per cent. The risk will probably run higher in a carefully selected series than the extent of the surgical procedure would indicate because, in my estimation, this operation should be reserved for the older age group in whom any surgical procedure carries additional risk.

The risk of vagotomy is minimal, and coupled with gastro-enterostomy, it will probably be that of, or slightly exceed the risk of, gastro-enterostomy. The risk of subtotal gastric resection is frequently quoted at 5 per cent. This has been true in the past; however, current figures do not support this statement. Walters, Counseller, Waugh and Clargett[9] reported 241 subtotal resections for duodenal ulcer performed in 1945 with a mortality rate of 1.7 per cent. Walters, Gray and Priestley[10] reported 296 resections performed in 1946 with a rate of 2 per cent. These are certainly enviable results, but with proper selection of cases and with the addition of the adjuncts outlined above, we should be able to attain them today.

On our Surgical Services of the Veterans' Administration Hospital, we recently reviewed 114 consecutive gastrectomies done for duodenal ulcer with two deaths, a mortality of 1.75 per cent.

Posterior gastro-enterostomy is still the operation of choice in certain selected cases. The patients in the fifth decade of life, who are not good surgical risks, and those in and above the sixth decade, who have the complication of cicatricial pyloric stenosis, who have an ancient ulcer history and who may or may not have lost most of the hyperacidity, are ideal candidates for the operation. The results are uniformly, although not 100 per cent, good. The reduced mortality rate and the great relief and comfort afforded the patient more than compensate for the occasional complications in any series of cases. In the preoperative preparation a period of Levin tube suction will greatly reduce the edema of the stomach wall. If gastric hyperacidity and hypersecretion are a prominent feature, vagotomy can be added to the operation with little additional risk.

GASTRIC RESECTION

The operation of subtotal gastric resection is the operation of preference in treating the young to middleaged patient of reasonable surgical risk, who has one or more of the surgical indications of duodenal ulcer. By confining the operation to this selected group, the risk of today should not be formidable. Indiscriminate employment of the operation in nonselected cases will greatly alter this risk and discredit the operation. While it is not within the scope of this paper to discuss surgical technique, a word might be said concerning the amount of stomach to be resected and the question of routine excision of the duodenal ulcer. While it is the custom now to speak in exact fractions of the total stomach that is resected, I know of no way to determine this with accuracy. The build of the patient, the degree and duration of gastric dilation and the variations in blood supply are all factors that affect the configuration of the stomach. In general, it has been the author's aim to remove 60 per cent or better of the total stomach, avoiding the 80 per cent or more resection. It is felt that the higher resections levels are unnecessary, that they are prone to limit the patient's food intake, postoperatively, and that by virtue of the additional technical difficulties encountered, exposure and surgical definition are sacrificed and the operative risk is increased. The question of routine excision of the ulcer is a controversy in itself. Excision of the ulcer is highly desirable but not to the point of jeopardizing the common duct or resecting a portion of the pancreas. It is probable that the liter and not the half-liter should be the unit of transfusion of blood during operation.

It is the surgeon's responsibility that the patient leave the operating table with approximately the amount of blood that he had upon his arrival there. This can only be accomplished by continuous multiple-unit transfusion throughout the operation.

MASSIVE HEMORRHAGE

The management of the acute massive hemorrhage from duodenal ulcer has, in general, been conservative in nature in most of the larger clinics for several years. This type of management was based upon the reasoning that in most cases, with supportive therapy and blood transfusions, the hemorrhage would cease before it became fatal. This logic is still substantial, although not 100 per cent correct, in the young to middle-aged individual who has an acute massive hemorrhage from a duodenal ucer, and it is still good surgical judgment to manage these cases by immediate quantitative replacement of the estimated blood lost during the acute hemorrhage. Surgical intervention can be done more safely after a period of rehabilitation. However, it is now generally known that the mortality rate of acute massive hemorrhage from duodenal ulcer in the age group above 60 years is from 6 to 8 per cent. The surgical problem in this group resolves itself into a differentiation between those who will and those who will not cease bleeding. This determination must be made, if possible, early in the course of observation. Operations of last resort, after two or three days of observation, when it became apparent that the patient was not going to cease bleeding, have been done by the author and the results have been most discouraging. Such terminal operations are not recommended because of the exceedingly high mortality. At the present time an attempt is being made to determine, during the first 24 to 36 hours of observation, those cases in the older age group who show clinical and laboratory evidence of continued bleeding. These cases are managed as acute surgical emergencies. Partial gastrectomy with excision of the ulcer is the operation of choice, in spite of the seriousness of the situation. Obviously multiple-unit blood transfusion is essential during the operation. Partial gatrectomy is the operation of election in the rehabilitated patient after acute hemorrhage. Although experience has demonstrated that some of these patients will develop hemorrhage after partial gastrectomy, my recent observations and the reported cases of serious to fatal hemorrhage relatively soon after vagotomy have led me to consider massive hemorrhage as a contra-indication for vagotomy, except as an adjunct to partial gastrectomy in selected cases.

VAGUS RESECTION

About a year ago it occurred to the author that vagus resection might be added to the operation of subtotal gastric resection in certain cases of severe ulcer complications. This was not original, but was prompted by the thought that this combined procedure provided for control of the psychic phase of hypersecretion through vagotomy and for control of the humoral phase through excision of the prepyloric mucosa. Accordingly, a small series of the combined operations was done. By careful observation it could be determined that the immediate postoperative course was different from that of subtotal gastric resection, with the exception of one case who complained of flatulence and moderate diarrhea. There was no mortality. The series is too small to be of statistical value, but it does demonstrate that in very severe ulcer manifestations in a patient of very nervous temperament in whom the cephalic phase of hypersecretion is apt to predominate, the two operations may be combined. There may be a field for this combination.

The consensus of opinion at the present time is that complete vagotomy, probably by the transthoracic approach, is the management of preference in postoperative anastomotic ulcer. A word of caution may be offered here in the following case.

Mr. F. S., a 46-year-old white man, was admitted to the Hospital in November 1947, because of persistent upper abdominal pain and gastro-intestinal bleeding manifested by hematemesis and melena. He gave a history of having had cholecystectomy for gall stones and posterior gastro-enterostomy done for a duodenal ulcer in 1930. His last bleeding had occurred five weeks prior to his admission and it was clasified as massive. Upon two previous occasions bleeding had necessitated hospitalization and blood transfusions. He was studied on the Medical Service and a diagnosis of bleeding marginal ulcer was made, and X-rays of the stomach were made that appeared to confirm the diagnosis (Figure 2). A surgical consultation was forwarded to the author who at first favored transthoracic vagotomy. The patient was then reviewed at the Gastro-intestinal Clinic and primarily because of the recurrent hemorrhages, it was decided to make an abdominal approach, take down the gastro-enterostomy and do a resection. The patient was operated on December 16, 1947. At operation it was found that he had a posterior penetrating duodenal ulcer, but he not only did not have an ulcer in the stoma, he had no stoma in that a gastro-enterostomy had never been made. A subtotal gastric resection was done, excising the ulcer. Figure 3 represents the postoperative study. This resection is higher than is routinely performed by the author. The patient is well at the present time. The details of an almost identical case, operated upon by a friend of mine, were reviewed recently. These cases emphasize the importance of direct examination of the pathology. This is again emphasized in the following case:

ABDOMINAL PAIN

Mr. R. M., a 48-year-old laborer, was admitted to the hospital because of acute upper abdominal pain. Three years previously he had suffered an acute perforation of a duodenal ulcer, which was surgically closed. He had had recurring distress and upon several occasions had vomited blood in the three-year interval. A second perforation was suspected upon admission, but after careful examination, it was determined that the acute pain was largely on the basis of pyloric obstruction. The patient was treated medically for six weeks, but with persistent high acids and ulcer distress; therefore, he was operated on September 15, 1947, at which time vagus resection and a mid-gastric resection were done. The findings consisted of:

1. Cicatrical pyloric narrowing.
2. Healed, opposing duodenal ulcers.
3. Multiple active benign gastric ulcers.

While the gastric ulcers were benign in this case, the combination of duodenal ulcer and gastric carcinoma has been reported. Furthermore, many juxtapyloric peptic ulcers are so situated that it is difficult for the roentgenologist, the surgeon and sometimes the pathologist to determine their exact nature. Until such time as the exact relationship of this type of ulcer to gastric carcinoma is established, direct surgical examination and gastric resection would seem indicated.

SUMMARY

1. The indications for surgical management of duodenal ulcer have been reviewed.
2. A current poll of the opinions of twenty-five

qualified surgeons on the question of vagotomy versus gastric resection in the surgical management of duodenal ulcer in reasonable risk patients has been offered.

3. The author's evaluation of the various surgical procedures has been presented.

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FEASIBILITY CONSIDERED

It would be well for each medical society to consider at least the feasibility of recording the scientific part of their program. SOUTHWESTERN MEDICINE is desirous of obtaining local material for publication. The Board of Managers fully realizes that the busy practitioner in the Southwest finds it difficult to take the necessary time to write formal papers.

He does, however, present before his Society interesting cases; and from these cases the readers of SOUTHWESTERN MEDICINE can derive benefit. Let us consider for a moment the possibilities for the publication of scientific data. Had local societies adequate recording apparrati, they could record each month the scientific programs from their meetings, scientific programs from special societies, such as gynecological societies, programs from staff meetings of civilian hospitals, and from military and veterans' hospitals, and in addition the proceedings of such special clinics, as, for example, the tumor clinics. Now, if you multiply these transcriptions by the number of local societies that SOUTHWESTERN MEDICINE reaches, one can see great possibilities for a publication confined in great part to Southwestern authors.

MEDICAL THOUGHT

Such a publication as ours has for its object the dissemination of medical thought interesting particularly to the physicians of the Southwest, and if we are to attain our objective, we must have local contributions. For this reason, the Editorial Board of SOUTHWESTERN MEDICINE respectfully suggests that the local medical societies strongly consider the feasibility of recording the scientific portions of their programs, and for that matter, the program in general, particularly legislative matter, for consideration for publication. If these recordings are made available to the Editorial Board of SOUTHWESTERN MEDICINE they will be transcribed, edited, or abstracted, and returned to the presenting speaker for his corrections and permission prior to their publication.

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February, 1950

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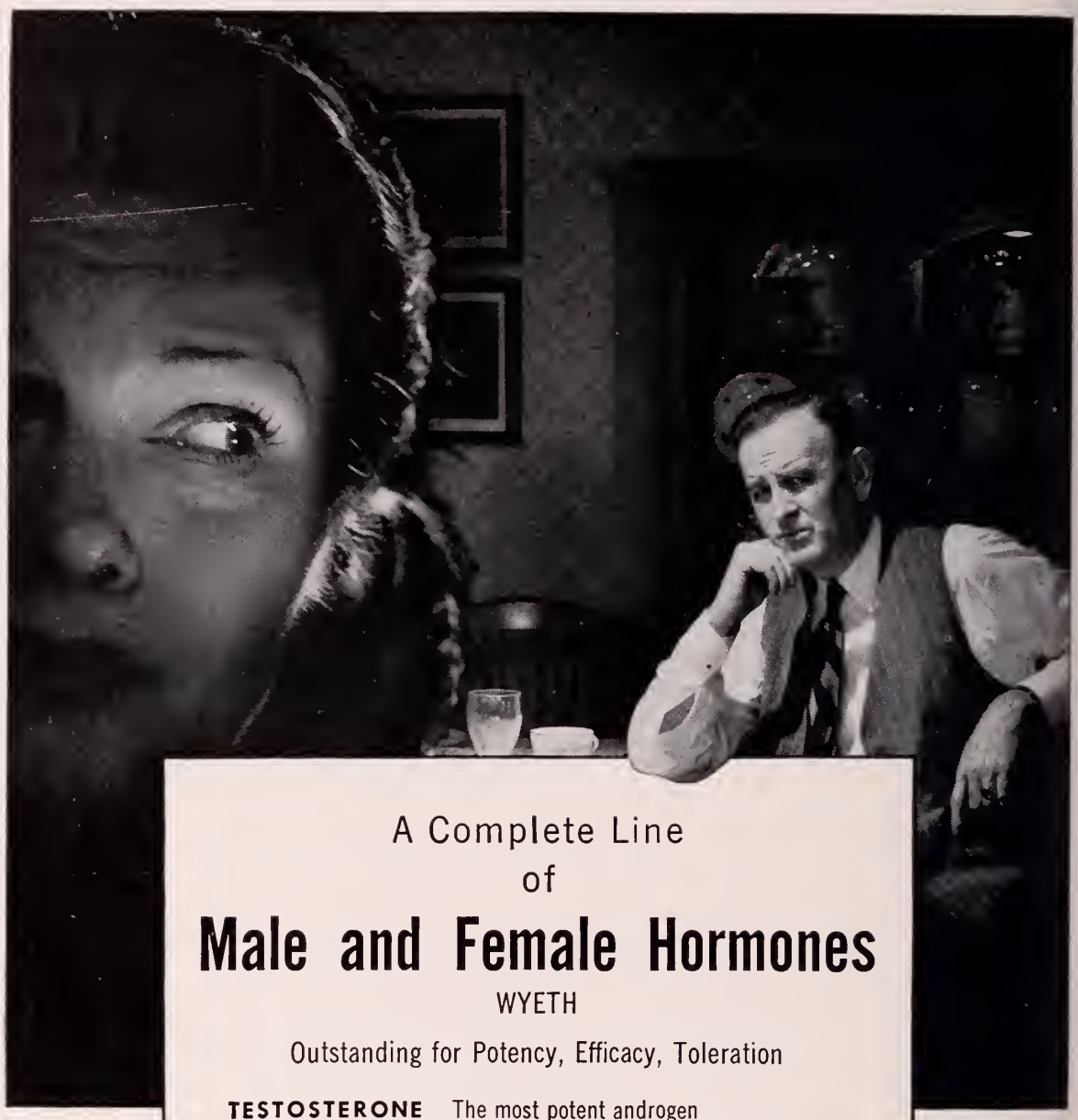
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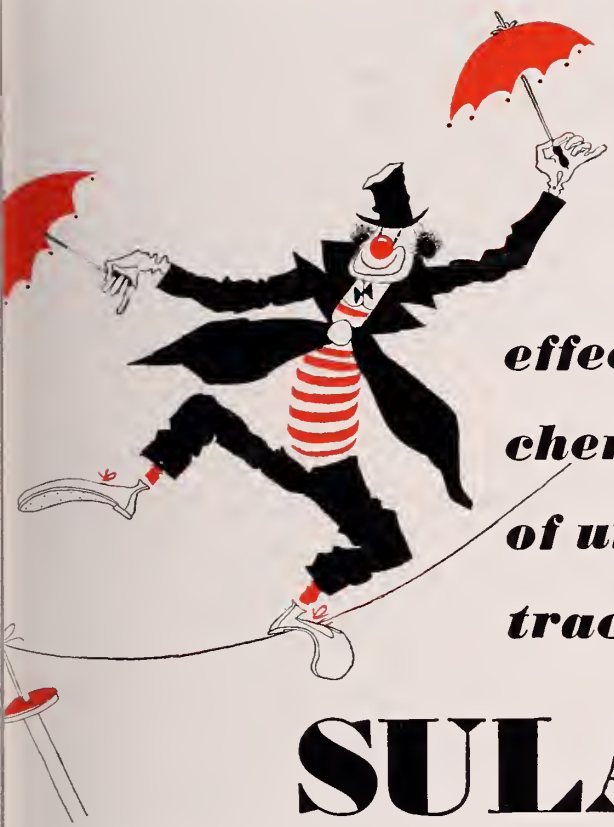
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2. Nesbit, R. M., and Glickman, S. I.: J. Michigan M. Soc. *46*:664, 1947.
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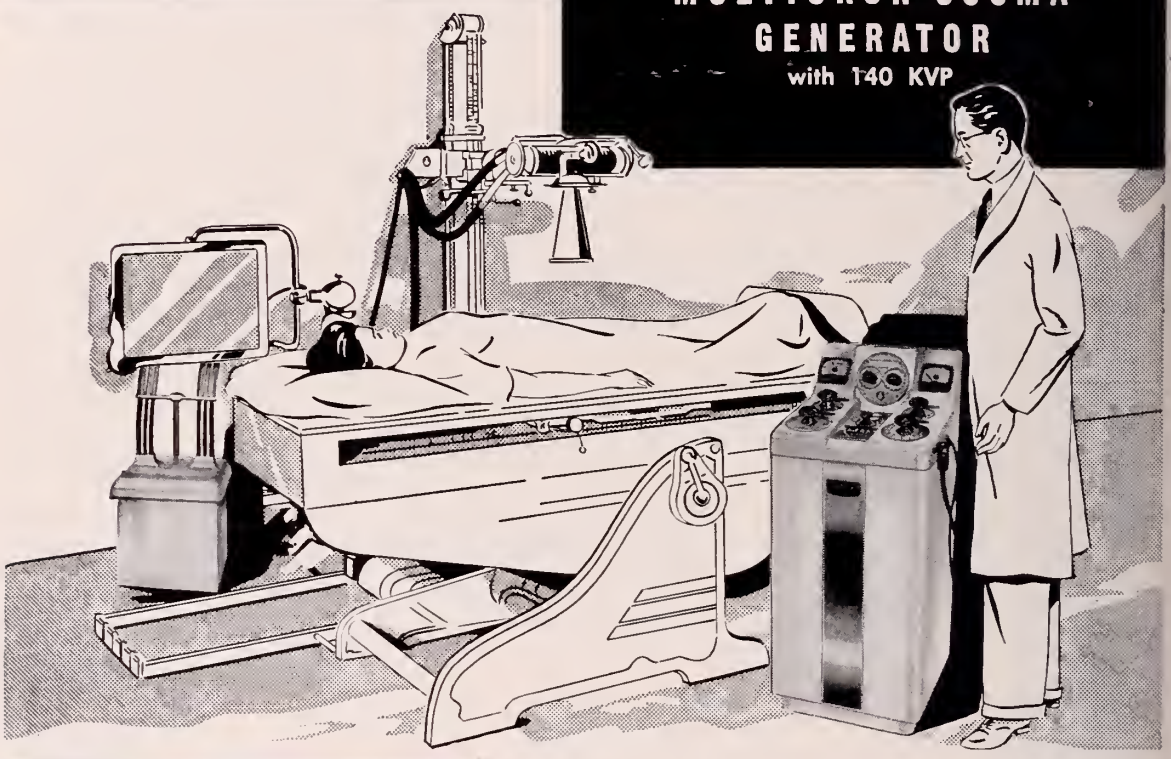
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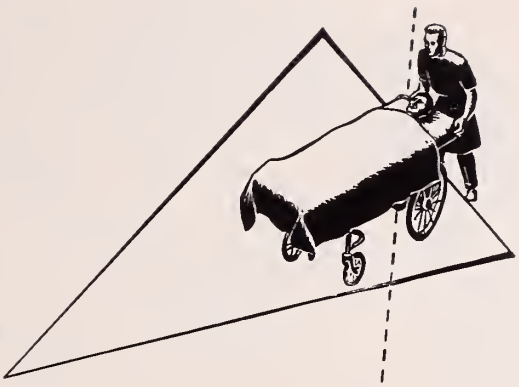
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*Perloff, W. H.: Am. J. Obst. & Gynec. 58:684 (Oct.) 1949.

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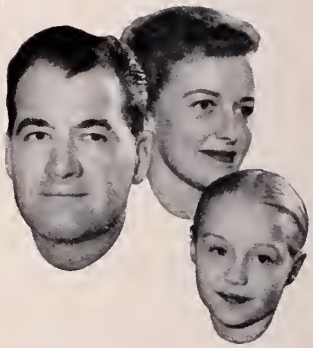
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The American College of Surgeons will hold one of three sectional meetings for 1950 Feb. 13-14 at Hotel Cortez.

Distinguished speakers in all fields of surgery will headline the program.

All physicians of the great Southwest are cordially invited to attend. Reservations may be made by writing Mr. Chris P. Fox, executive vice-president, El Paso Chamber of Commerce.

Members of the committee on arrangements are:

FELIX P. MILLER, M.D., F.A.C.S., El Paso; Chairman, Committee on Arrangements; Member, Texas State Executive Committee, American College of Surgeons; Surgeon, Southwestern General Hospital.

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W. U. PAUL, El Paso; Superintendent, Southwestern General Hospital.

NORMAN B. ROBERTS, El Paso; Consultant-Administrator, Providence Memorial Hospital.

THE COMPLETE PROGRAM

Monday, February 13, 1950

8:30 a.m., Ballroom

Medical Motion Pictures:

8:30 a.m., Malnutrition in the Hospital Patient
EUGENE F. DUBOIS, M.D., New York; ROBERT ELMAN, M.D., F.A.C.S., St. Louis, and HERBERT POLLACK, M.D., New York.

9:15 a.m., Fractures: An Introduction
HARRISON L. MCLAUGHLIN, M.D., F.A.C.S., New York.

(Sponsored by the American College of Surgeons and its Committee on Trauma, and made possible through a grant from the Johnson & Johnson Research Foundation.)

10:00 a.m., Ballroom

FELIX P. MILLER, M.D., F.A.C.S., El Paso; Surgeon, Southwestern General Hospital; Member, Texas State Executive Committee, American College of Surgeons; Chairman, Committee on Arrangements, *Presiding.*

Arterial Lesions of the Extremities
MICHAEL E. DEBAKEY, M.D., F.A.C.S., Houston; Professor and Chairman of Department of Surgery, Baylor University College of Medicine; Surgeon-in-Chief, Jefferson Davis Hospital.

Nonpenetrating Injuries of the Abdomen
CHARLES J. MIANGOLARRA, M.D., F.A.C.S., New Orleans; Clinical Assistant Professor of Surgery, Louisiana State University School of Medicine; Senior Visiting Surgeon, Charity Hospital of Louisiana.

Injuries to the Elbow Region
I. W. KAPLAN, M.D., F.A.C.S., New Orleans; Assistant Clinical Professor of Surgery, Louisiana State University School of Medicine; Senior Surgeon, Touro Infirmary.

Hormone Therapy in Advanced Cancer of the Breast
ROBERT E. PETERSEN, M.D., Iowa City; Assistant in General Surgery, University Hospital, State University of Iowa.

12:15 p.m., Ballroom Foyer and Mezzanine

Luncheon for Surgeons and Physicians followed by Round Table Conference and Discussion of Papers Presented at Morning Session — Questions and Answers.

E. PAYNE PALMER, M.D., F.A.C.S., Phoenix; Emeritus Chief of Surgical Staff, St. Joseph's Hospital; Attending Surgeon, Good Samaritan, and St. Monica's Hospitals; Governor, American College of Surgeons, *Presiding.*
Discussion Leaders — Speakers at Morning Session.

Panel Discussions
2:00 p.m., Ballroom

JACK FURMAN, M.D., F.A.C.S., Fort Worth; Surgeon, Harris Memorial Methodist, and St. Joseph's Hospitals; Governor, American College of Surgeons, *Presiding.*

Caesarean Section
Endometriosis
Moderator: WILLARD R. COOKE, M.D., F.A.C.S., Galveston; Professor of Obstetrics and Gynecology, University of Texas Medical Branch; Visiting Obstetrician and Gynecologist, John Sealy Hospital.

Collaborators:

FRANCIS A. SNIDOW, M.D., El Paso; Attending Staff, El Paso General Hospital and Hotel Dieu Sisters' Hospital. JOSEPH W. KELSO, M.D., F.A.C.S., Oklahoma City; Chairman of the Department of Gynecology, University of Oklahoma School of Medicine; Staff, St. Anthony, Wesley, Oklahoma City General, Polyclinic and University Hospitals, and Oklahoma Hospital for Crippled Children.

CONRAD G. COLLINS, M.D., F.A.C.S., New Orleans; Professor and Chairman Department of Gynecology and Associate Professor of Obstetrics, Tulane University of Louisiana School of Medicine.

3:30 p.m.

Intestinal Obstruction
Moderator: ROBERT M. MOORE, M.D., F.A.C.S., Galveston; Professor of Surgery and Chairman, Department of Surgery, University of Texas Medical Branch; Second Vice-President, American College of Surgeons.

Collaborators:

ALBERT W. HARTMAN, JR., M.D., F.A.C.S., San Antonio; Member of Staff, Surgery, Nix Memorial, Santa Rosa, and Medical and Surgical Hospitals, Robert B. Green Memorial Hospital and Clinic.

J. PEYTON BARNES, M.D., F.A.C.S., Houston; Associate Professor of Clinical Surgery, Baylor University College of Medicine; Visiting Staff, Surgery, St. Joseph's Infirmary.

6:00 p.m., Ballroom Foyer and Mezzanine

Dinner for Surgeons, Physicians and Hospital Representatives followed by Discussion of Activities of American College of Surgeons.

ROBERT M. MOORE, M.D., F.A.C.S., Galveston; Professor of Surgery and Chairman, Department of Surgery, University of Texas Medical Branch; Second Vice-President, American College of Surgeons, *Presiding.*

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CHARLES F. BRANCH, M.D., F.A.C.P., Chicago; Assistant Director, American College of Surgeons.

8:30 p.m., Ballroom
Symposium on Cancer

DUDLEY JACKSON, M.D., F.A.C.S., San Antonio; Surgeon, Nix Memorial, and Medical and Surgical Hospitals; Consultant in Surgery, Brooke General Hospital (Army), *Presiding.*

Melanomata

RANDOLPH LEE CLARK, JR., M.D., F.A.C.S., Houston; Dean and Professor of Surgery, University of Texas Post Graduate School of Medicine; Associate Professor of Clinical Surgery, Baylor University College of Medicine.

Brain Tumors — Differential Diagnosis

EDWIN BOLDREY, M.D., F.A.C.S., San Francisco; Assistant Clinical Professor of Surgery, University of California Medical School; Assistant Attending Neurosurgeon, University of California Service, San Francisco Hospital.

Ovarian Tumors

WILLARD R. COOKE, M.D., F.A.C.S., Galveston; Professor of Obstetrics and Gynecology, University of Texas Medical Branch; Visiting Obstetrician and Gynecologist, John Sealy Hospital.

Tuesday, February 14, 1950

8:30 a.m., Ballroom

Medical Motion Pictures:

8:30 a.m., Surgical Anatomy of the Femoral Triangle

CONRAD J. BAUMGARTNER, M.D., F.A.C.S., Beverly Hills, California.

8:50 a.m., Injuries of the Peripheral Nerves

LOYAL DAVIS, M.D., F.A.C.S., Chicago, and GEORGE PERRET, M.D., Chamblee, Georgia.

(Sponsored by the American College of Surgeons and its Committee on the Nervous System, and made possible through a grant from the Johnson & Johnson Research Foundation.)

9:30 a.m., We Speak Again. The Rehabilitation of Laryngectomized Patients

LEROY A. SCHALL, M.D., F.A.C.S., Boston.

8:30 a.m., Assembly Room

Regional Committees on Trauma and Forum on Associated Problems

ISIDORE COHN, M.D., F.A.C.S., New Orleans; Professor of Clinical Surgery, Louisiana State University School of Medicine; Chief, Section VIII, Regional Committees on Trauma, American College of Surgeons, *Presiding.*

Immediate Care of the Injured

CARL B. YOUNG, JR., M.P.H., Galveston; Physiology Department, University of Texas Medical Branch.

10:00 a.m., Ballroom

G. V. BRINDLEY, M.D., F.A.C.S., Temple; Senior Surgeon, Scott and White Hospital; Lecturer in Surgery, University of Texas Medical Branch; President, State Medical Association of Texas; Governor, American College of Surgeons, *Presiding.*

Gastric and Intestinal Intubation

LEROY J. KLEINSASSER, M.D., F.A.C.S., Dallas; Instructor in Surgery, Southwestern University Medical College; Chief of Surgical Service, Veterans Administration Hospital.

Treatment of Head Injuries

ALBERT D'ERRICO, M.D., F.A.C.S., Dallas; Professor of Neurological Surgery, Southwestern University Medical College; Chief Neurological Surgery; Baylor University Hospital.

The Relation of Pancreatic Activity and Peptic Ulceration.

EDGAR J. POTH, M.D., F.A.C.S., Galveston; Professor of Surgery, University of Texas Medical Branch; Surgeon and Director of Tumor Clinic, John Sealy Hospital.

Kidney Tumors: Types, Diagnosis, Treatment

HARRY M. SPENCE, M.D., F.A.C.S., Dallas; Clinical Associate Professor of Urology, Southwestern University Medical College.

12:15 p.m., Ballroom Foyer

Luncheon for Surgeons and Physicians Followed by Round Table Conference and Discussion of Papers Presented at Morning Session — Questions and Answers.

W. PAT FITE, M.D., F.A.C.S., Muskogee, Oklahoma; Director, Fite Clinic; Visiting Lecturer in Surgery, University of Oklahoma School of Medicine; Governor, American College of Surgeons, *Presiding.*

Discussion Leaders — Speakers at Morning Session.

Panel Discussions
2:00 p.m., Ballroom

CHARLES E. WEBB, M.D., F.A.C.S., El Paso; Visiting Surgeon, Southwestern General and Hotel Dieu Sisters' Hospitals; Vice-Chairman, Committee on Arrangements, *Presiding.*

Surgery of the Hand

Moderator: TRUMAN G. BLOCKER, JR., M.D., F.A.C.S.; Professor of Plastic and Macillo-facial Surgery, University of Texas Medical Branch; Attending Plastic Surgeon, John Sealy Hospital.

Collaborators:

WILLARD W. SCHUESSLER, M.D., El Paso; Consultant in Plastic Surgery, Hotel Dieu Sisters', Southwestern General and El Paso General Hospitals.

CHARLES W. TENNISON, M.D., Consultant in Plastic Surgery, Brooke General Hospital (Army).

3:30 p.m.

Surgical Lesions of the Stomach

Moderator: GEORGE W. WALDRON, M.D., F.A.C.S., Houston; Professor of Clinical Surgery, Baylor University College of Medicine.

Collaborators:

G. V. BRINDLEY, M.D., F.A.C.S., Temple; Senior Surgeon, Scott and White Hospital; Lecturer in Surgery, University of Texas Medical Branch; President, State Medical Association of Texas; Governor, American College of Surgeons. CARL A. MOYER, M.D., F.A.C.S., Dallas; Professor of Experimental Surgery, Southwestern University Medical College; Chief of Surgery, Parkland Hospital.

DR. RALPH H. HOMAN HEADS EL PASO COUNTY MEDICAL SOCIETY

Dr. Ralph H. Homan was elected president of El Paso County Medical Society for 1950 at the recent annual business meeting of the Society.

Other officers named were Dr. Frank P. Schuster, president-elect; Dr. H. D. Garrett, vice-president; and Dr. Joe R. Floyd, secretary-treasurer.

Dr. Homan succeeds Dr. J. Leighton Green, president of the Society during 1949. Under the leadership of Dr. Green and Dr. Willard W. Schuessler, chairman of the society's public relations committee, a thoroughgoing public relations campaign on the local and Southwestern level was conducted; and at the end of 1949 it was the consensus of the society, that never before had its members stood so high in public regard and enjoyed such excellent relations with the public in general.

In Dr. Homan's administration Dr. Schuessler will be continued as public relations chairman; and the public relations and educational campaign will be vigorously pushed.

Besides Dr. Green, other retiring officers are Dr. Maynard S. Hart, vice-president; and Dr. Celso C. Stapp, secretary-treasurer.

Dr. Leslie M. Smith and Dr. Wickliffe R. Curtis were elected as El Paso County Society members of the Board of Managers of SOUTHWESTERN MEDICINE. For Dr. Smith it was re-election, since he had also served on the board in 1949. Dr. Curtis succeeds Dr. Louis W. Breck, president-elect of the Southwestern Medical Association. Other members of the Board of Managers are Dr. Charles M. Thompson, Albuquerque, N. M., and Dr. James S. Walsh, Douglas, Ariz., both named at the recent meeting of the Southwestern Medical Association.

Dr. Homan, who has practiced in El Paso since 1924 and is well known throughout the Southwest, has since the beginning of his practice always specialized in diseases of the heart and lungs. He is a fellow of the American Medical Association, of the American College of Physicians, and of the American College of Chest Physicians.

He has been Counsellor from the First Texas District to the Texas Medical Association for the past nine years.



Dr. Ralph H. Homan

Dr. Homan was born in Dallas, on Sept. 28, 1894. His father was the late W. K. Homan, an attorney. Dr. Homan spent his boyhood in Colorado City, Texas, then moved to El Paso in 1909, where he attended El Paso High School. His family then moved to Chicago where he graduated from high school. He attended the University of Texas and was graduated from the University of Texas Medical School in 1924.

During World War I he served with the 90th Infantry Division in France and was discharged by the Army as a captain of the infantry.

In World War II it was the Navy for Dr. Homan. He was commissioned a lieutenant-commander, U.S.N.R., in Oct. 1940, more than one year before the United States became actively engaged in hostilities. Five years later Dr. Homan was discharged as a captain, M. C., U. S. N. R.

Dr. Homan married the former Laura Davis of Center, Texas, in 1924. Dr. and Mrs. Homan have one daughter, Cathy, 15, a student at Austin High School of El Paso. The family resides at 2920 Silver Street.

As well as being a member of county, state and national medical societies, Dr. Homan is a member of Delta Kappa Epsilon, and Phi Alpha Sigma fraternities.

He is also past president of El Paso Chapter of the American Heart Association, past president of El Paso Chapter of the American Cancer Society, past president of El Paso Lions' Club, and a member of El Paso Sheriff's Posse and El Paso Country Club and an accomplished golfer.

FEDERAL AID TO MEDICAL EDUCATION

By Robert B. Homan Jr., M. D., El Paso
Member, House of Delegates, American Medical Association

Among the more important actions of the House of Delegates of the A. M. A. at the Clinical Session in Washington, D. C., December 8, 1949, was the unanimous expression of opposition to the so-called Emergency Professional Health Training Act of 1949. (S1453 and HR 5940).

This act has been lifted, with only minor changes, from Title 1 of the Admtnistrations' omnibus bill for socialized medicine (S1679). It lays the ground work for the complete nationalization of our medical, dental, nursing, practical nursing, osteopathic, optometric, and public health schools. It is a back-door entrance to compulsory health insurance. Various proponents of compulsory insurance have recently publicly stated that they do not propose to try to pass the omnibus bill (S1679) but will pass the same thing a "section" at a time. This is one of the "sections". It is a very dangerous "section" in that it will lower the standards of medical education and will thereby be detrimental to the public interest.

GRANTS IN AID

The bill provides grants in aid to medical schools and to the schools of the various allied professions. It provides a grant of $500 per year for each student enrolled up to the medical school's average enrollment, and $1000 per year for each student enrolled in excess to a school's average past enrollment. Lesser sums on the same basis are to be allotted to dental schools, nursing schools, osteopathic schools, etc. The total allotment is limited to 40% of the school's annual budget!

A very juicy morsel in the bill is that it provides the full grant to all schools to be established in the future. It provides $5,000,000 annually for grants for construction. One can visualize professional schools arising on every corner with federal grants underwriting 40% of the overhead immediately! The bill also provides for "proof of need" in the scramble for federal funds. This is, of course, just another method used by the "economic planners" to discredit the capitalistic system.

It is not difficult for a person to make out a good case for the necessity for aid to medical schools, and it is even easier to explain why some schools are possibly in serious economic straits. The explanation is based entirely on excessive taxation. The present tax schedule leaves very little "endowment money" which formerly was used to carry on not only medical education but many other institutions of higher learning. It does not necessarily follow that "government money", which is your money collected in taxes, will be free of government control when it is allotted by the bureaucrats. As a matter of fact, S1453 vests all control in the hands of one man — the surgeon general. He decides which school shall get aid and how much. How long do you think it would be before he also decides which students will be admitted to the school? Political pressure has no place in education.

"EMERGENCY"

You will notice the use of the word "emergency" in the title of the bill. One wonders how long the American people are going to put up with that word in Washington. "Emergency" has been fed to them for the past 18 years! Every bill is an "emergency." The "emergency" in this bill is based on the false precept that not enough doctors are being educated and, therefore, the government must step in and do something about it — with your tax money. What are the facts in this connection?

The truth is that the average number of admissions to medical schools is now 7000 as compared to an average of 6000 in the 10 year period before the last war. The actual increase in physician population in the five year period 1942-1947 was 16,442, as compared to 6,920 in the previous 5 year period. The increase in physician population from 1940 to 1948 was 14%, as against a 12% increase in the general population. This represents a relative increase in physician population of over 16%. Moreover, many medical schools have more recently increased their enrollment. These statistics do not bear out the "emergency".

"DEFICIT FINANCING"

In considering any bill before the Congress it is well to consider the fact that all bills dealing with further expenditure by the Federal government lead directly to "deficit financing". Our government has apparently lost all intent of balancing the budget. Aid to education had better stay on a local or state level where pay-as-you-go methods are likely to prevail.

The Board of Trustees and the Council on Medical Education and Hospitals of the A. M. A. have issued a very strong joint statement in opposition to S1453 and HR 5940. This statement is in the hands of every member of Congress. S1453 was passed by the Senate in the first session of the 81st Congress. Its companion, HR 5940, is now in the Rules Committee of the House of Representatives and may be reported out at any time for a vote.

This is a real "emergency" for the medical profession, nursing profession, and allied professions. If you do not want governmental interference in your professional schools, write or telephone your congressman today to oppose HR 5940. Ask your friends and nurses to do the same. Give your reasons for opposing it.

NEW HEALTH CENTERS IN NEW MEXICO

Seven new health centers have been completed in New Mexico by the New Mexico Health Foundation. They are located at Cuba, Mosquero, Reserve, House, Bernalillo, Albuquerque and Wagon Mound.

Stuart W. Adler, M. D., is managing director of the Foundation.

ERRATUM

In the article, "Treatment of Snake Bites" by Dr. Russell Holt of El Paso, published in the January edition of SOUTHWESTERN MEDICINE an error occurred in the eighth and final sentence of the second paragraph of the second column of the first page, page 13 of the journal. This sentence begins "If death occurs after 27 hours." This should have read "If death occurs after 72 hours."

THE PSYCHOLOGICAL MANAGEMENT OF THE TUBERCULOUS PATIENT

By R. E. Mitchell, M. D., Fort Stanton, N. M.

The role of the mind and emotions in tuberculosis is a matter for careful consideration in the treatment of all patients afflicted with this malady. In no other somatic disease is there such an opportunity for the mind at all its levels to exert its influence, from the inception of the tuberculosis infection to its final issue or resolution. The mind and body of such a patient are inseparable. Like the dog, Rover, "When he's sick, he's sick all over." Tuberculosis has a multitude of disturbing factors of body, mind, and soul, and its relation to environment. No wonder the patient's mental equilibrium is upset with the manifestations and ramifications of the disease and its treatment. The physician should understand the emotional and psychic components of tuberculosis and the unfounded generalizations that abound.

It has been my observation at tuberculosis sanatoriums, that three times as many patients were discharged at their own request, who were not receiving any form of collapse therapy, as opposed to those who were. The reasons given by the patients were: a feeling of well-being, not sufficiently aware of the importance of bed rest, not educated properly as to the advantages of hospital treatment, conditions at home requiring their return, or selfish or emotional upsets in the contact with other patients. Then there are those patients who are not receiving active mechanical therapy, who feel that the treatment can be obtained outside the hospital; and patients fearful of surgical measures, who feel frustrated because of their refusal to accept these measures. This list also includes patients with a wanderlust, those who cannot adjust to a regulated regimen or are unable to adapt themselves to other patients, also common drifters and alcoholics who stay at institutions only long enough to be fattened up, individuals who seek the miracle of better climate, and patients worried over financial, economic, marital, or family difficulties.

WHIMSICAL PATIENTS

The patients are often whimsical, have no sense of responsibility, and do not hesitate to spread infection. The nature of many adults suffering with clinical tuberculosis is that of a child, selfish, self-centered, irritable, easily angered, easily pleased, capricious with their food eating irregularly and only what they like, and appearing underfed. Some are egotistical, dissatisfied, and ungrateful.

The other extreme is the viewpoint set forth by Morland to the effect that since many geniuses have had tuberculosis, the disease must be a stimulant to creative capacity. The roll of the great is replete with the sufferers from tuberculosis, and includes such names as Milton, Chopin, Laennec, Schiller, and Trudeau. Letulle says, in this regard, "They astonish everybody with their mental and intellectual activity, their memory, their quick judgment; their delicate reasoning powers are of incomparable magnitude." Robert Louis Stevenson acknowledges, himself, in the Vailima Letters, the immense deprivations which his recovered health meant in the loss of stimulus to his artistic faculties. Interesting portrayals of this aspect of the psyche of the tuberculous are to be found in the character of Mimi, in Puccini's opera, "La Boheme."

However, be that as it may, there is excuse for some manifestations of his traits, in-as-much-as the patient is engaged in a fight for his life; and the conditions of his environment tend to aid and abet any factors drawing attention to the ego.

SUPREME OPTIMISM

Another trait of considerable interest is the supreme optimism of some of the tuberculous, the **spes phthisica,** so often referred to, occurring chiefly in the advanced stages. This is variously called, by some as "whistling in the dark"; by the psychiatrists, as a flight from reality, a defense mechanism, a thin disguise for fear. Eugene O'Neil, a former tuberculosis patient, said that tuberculosis is a pipe dream that keep them all going, and that none of them really felt sick.

Jones and Bogen speak of **spes phthisica** as a generally present phenomenon, deserving fuller recognition of its diagnostic and therapeutic possibilities, whether it be due to the disease process itself through its toxins, or to the environmental factors, including the beneficial effects of regulated hospital or sanatorium care, with worry deliberately set in the background. However, this is not a constant phenomenon, and a patient who appears to be optimistic on the surface may reveal weakness in this protective mechanism on being put to the proof. In some patients a spirit of Oriental fatalism may prevail to some degree, or alternate with undue optimism.

PROGNOSIS

In few diseases does recovery depend so much on the attitude of the patient. In pulmonary tuberculosis, the road to health is long, rugged, tedious, and toilsome. Many patients are singularly handicapped by a definitely unstable nervous and mental make-up, carrying the burdens of worry, and fear, goaded by the toxins of the disease.

The physician could arrive at a more intelligent prognosis if the patient's background, previous psychic and temperamental make-up, and his mental stock were more carefully studied.

The patient may manifest such nervous system phenomena as vasomotor headaches, chest pains, precordial pains, dyspepsia, constipation, neuritis, or various hyperesthesiae. These aspects notably flushing, pupillary dilatation, migraine, or dermography, may occur unilaterally on the side corresponding to the affected lung, or that in which the most recent active lesion is found. They may also occur following the induction of a pneumothorax. Peripheral neuritis of the arm or leg, and intercostal and sciatic neuralgia are common. The etiologies attributed to them may be reflex or tuberculous processes adjacent to the phrenic or vagus nerves and a primary parenchymal origin in the nerve itself, according to Conologue. Potter believes that toxic changes, due to stimulation of the central nervous system, lead to imbalance of the vegetative nervous system; while Breuer believes that the tuberculous process causes an upset in the sensitiveness of the vegetative nervous system.

PROPHYLAXIS AND TREATMENT

The mental factor as regards prevention and treatment comes into play very early with the observance of good mental hygiene, including the avoidance of

mental as well as physical fatigue. The physician should make his diagnosis and prognosis to the patient while bearing in mind future mental and emotional pitfalls. He should establish the foundation of education and understanding of the disease, to allay the factors of fear and uncertainty, the exact extent of frankness employed depending on the individual patient. A humane approach should be used, including such factors as the patient's adjustment to his school and home life, occupational and fraternal interests.

Many patients are maladjusted before hospitalization, and require special attention because of personal difficulties and emotional upsets. In this regard, advantage may be taken of the high suggestibility of the tuberculous patients. The use of mental catharsis, that is, by therapeutic conversations allowing the patient to unburden himself, is a valuable weapon in revealing hidden fears and weaknesses, thus helping him to a further understanding of himself. We may well take heed of such statements as, "You don't know what it means to be able to talk to someone who has time to listen."

SERIOUS TASK

A wise optimism on the part of all caring for the patient, with ample acknowledgment of the seriousness of the task, and avoidance of raising false hopes, can do much to relieve his suffering. The treatment of this disease requires much knowledge of personality and prolonged education of the patient. Recreation and the comfort of religion have great importance. Effort should be directed to recognize the patient's individuality, and to foster his sense of personal achievement.

Among the personnel on the medical staff, the occupational therapist has an important role. A well regulated program of light recreation for ambulatory patients should be included as well as the usual crafts work. If the patients find someone truly interested in their spending a few pleasant hours, a better degree of patient-doctor cooperation may be hoped for. The library calls for current periodicals as well as a variety of books. The radio and movies may be used as well as live entertainers. Photography, painting, pottery, leather work, or printing may bring in a little remuneration to the hobbyist.

The treatment of tuberculosis is indeed a task of mental recreation as well as physical restoration.

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DR. LOREN F. ELLIOTT

Loren F. Elliott, M. D., physician and surgeon in Albuquerque for the past 24 years, died Dec. 12, following an illness of several months. He was 56 years old.

Dr. Elliott was a graduate of St. Louis University School of Medicine 1919. He was a World War I veteran, a Mason, a member of the New Mexico Medical Society, and a past president of the Bernalillo County Medical Society.

X-RAYING OF GENERAL HOSPITAL PATIENTS

(Reprinted from The Chaser)

The value of x-raying the chests of large numbers of persons in a given area in a relatively short period of time has been demonstrated conclusively by the mass chest x-ray surveys conducted in several large cities in the past two years. After the conclusion of such a survey the tuberculosis control officer cannot fail to be impressed that tuberculosis case finding must be more than a casual attempt to x-ray a few select groups at periodic intervals. He very probably will decide that some substitute for the intensive survey must be provided if tuberculosis control is to be realized in the community in a reasonable period of time.

The leaders of any comprehensive chest x-ray survey in an area realize only too well the difficulty of organizing the entire community. Some groups lend themselves very well to such programs, particularly workers in industry and students attending schools and colleges. However, it has been found that the organization of individuals in a neighborhood is a most formidable task. Much of the success in attaining full coverage in a mass survey will depend on the full utilization of organizations already in existence. Of such groups, industrial workers, patients admitted to general hospitals and school children would seem to be the most accessible.

Early studies of patients admitted to general hospitals revealed that 2 to 4 per cent had tuberculosis. Pathological change in the chest was said to have been noted in 22 per cent of patients admitted to some general hospitals. In any event there appears to be evidence that the prevalence of tuberculosis in persons entering general hospitals is as high as that in the general population.

The problem of establishing a mass x-ray program in the general hospital is usually formidable. In most cases it will be necessary for the large general hospital not only to make a sizeable investment in equipment, but also to make certain space alterations. There is much to be said for making the miniature chest x-ray examination a part of the admitting procedure rather than performing the examination in the x-ray room which is frequently crowded. The technique to be followed will depend largely on the type of hospital and the number of daily admissions. The small hospital with the few admissions may very easily x-ray most patients' chests in the x-ray room on 14 x 17-inch films with no addition to standard equipment. In the hospital that is larger, it may be economical to install a miniature film unit which works in conjunction with standard x-ray equipment. In addition to capital investment, there is the problem of operational cost. Usually one employee can serve as technician and clerk in the case of large installations. The cost of film, chemicals and other incidental expenses should not be excessive.

The general hospital stands today as one of the important components of a good tuberculosis control program, along with the private physician, the health department, the tuberculosis association and the tuberculosis hospital.—Condensed from Ohio Public Health.

NARRATIVE REPORT OF THE EL PASO TUBERCULOSIS ASSOCIATION SERVING EL PASO, HUDSPETH AND CULBERSON COUNTIES

For the Fiscal Year beginning April 1, 1948 and ending March 31, 1949



The home of El Paso Tuberculosis Association at 711 North Florence Street.

The busy physician realizes that the Tuberculosis Association of his community functions in an adequate and efficient manner. He does not, however, in many cases have the time or facilities to investigate the extent of the work done by this group of individuals. Without this understanding it is difficult for him to realize the magnitude of their operation.

Historically, in April, 1908 this group was organized as the United El Paso Consumptive Relief Association. Since that time the Association has functioned as a unit, and from the year 1912 until 1925 the Association was under the leadership of charitable organizations. In 1945 the Association changed its name again to the El Paso Tuberculosis Association, Inc., with Mrs. Gertrude Gardiner as executive secretary. At this time it expanded its operations to a tri-county organization serving El Paso, Hudspeth, and Culberson Counties.

With this growth has been acquired a mobile x-ray unit, and permanent housing quarters located at 711 N. Florence Street. These acquisitions were made possible through the generosity of A. B. Poe, Sr. It may safely be said that Mr. Poe's generosity has made it possible for many a case of acid-fast infection to be recognized early and treated adequately. The medical profession is indeed indebted to his generosity and kind co-operation.

It is well worth the time of the readers of SOUTHWESTERN MEDICINE to consider in detail the aims, the purposes, and accomplishments of this organization; and for this reason a narrative report is presented:

The aims and purposes of the El Paso Tuberculosis Association during the fiscal year have been to:

1. Expand as far as possible its program of health education and case-finding in El Paso, Hudspeth and Culberson Counties.
2. Further the instigation of legislation for the maintenance of more hospital beds for tuberculosis through its legislative committee and medical-advisory committee.
3. Work in closest possible co-operation with the City-County Health Department in the coordination of the tuberculosis control program for the El Paso area.
4. Continue work with James Abernathy of the State Rehabilitation Office for more rehabilitation of tuberculosis patients.
5. Build up and further the Christmas Seal Sale by all possible means.
6. Put into practice the constructive suggestions offered by the state and national Tuberculosis Associations for a better program and better means of accomplishing the ultimate and desired results.

I

"Expand as far as possible its program of education and case finding in El Paso, Hudspeth and Culberson Counties.

The audio-visual education report gives a minute and detailed account of the number of times the eight films owned by the El Paso Tuberculosis Association have been shown, and the number in attendance at each showing.

The Mobile X-ray report gives in detail the location, date number of x-rays and findings of each.

HEALTH EDUCATION THROUGH THE MEDIUM OF THE NEWSPAPERS

Through this year El Paso Times and the El Paso Herald-Post carried weekly schedules of the location of the mobile x-ray unit for the coming wee. Educational articles appeared from time to time urging the people of the community to report to the unit for chest x-rays.

During the period for the Seal sale publicity, the above newspapers carried daily articles of our drive, and other articles appeared in El Continental, the Hudspeth County News (Sierra Blanca), El Fronterizo (Juarez), The Labor Advocate, The Border Fed, the Prospector (Texas Western College), the Van Horn Advocate, Biggstuff (Biggs Field), and all high school publications.

RADIO

Through the skillful management of our radio publicity program, Conrey Bryson made it possible for us to be given radio time on all five of our local stations during the entire year, for announcing the location of the mobile unit as well as urging the people of the community to support our program at Christmas. Spot announcements were made during the day, transcriptions purchased from the Los Angeles Tuberculosis Association and the Texas Tuberculosis Association were given time on all stations. The co-operation of all was splendid; and we are greatly indebted to KTSM, KSET, KROD, KEPO and KELP for their wholehearted efforts in our behalf.

BILLBOARD AND OTHER PUBLICITY

To The Bauman Advertising Co., we are indebted for the billboard display of our Christmas Seal which could be seen on Montana Street, a very prominent location, during the Christmas Seal Sale.

To the City of El Paso Park Commissioner, Mr. Hugo Meyer, we say 'thank you' for the large double-barred cross which he places for us in the middle of the plaza park each year.

DISTRIBUTION OF EDUCATION MATERIAL

Over 100,000 pamphlets purchased from the Texas Tuberculosis Association have been distributed to the schools in El Paso, Hudspeth, and Culberson Counties, to civic clubs, industries, and all other groups which desired education materials.

POSTERS

All TB posters have been distributed to schools, eating establishments, stores, airlines and to other public places. The City-County Health Department has used many of them in its clinics and in their health education program.

WINDOW DISPLAYS

Five window displays were given us at different times during the year by local firms. This type of publicity is not limited to the Christmas Seal Sale, but is used as a means of education of the public in what the association is doing on a year round basis.

SPEAKERS BUREAU

Because of the resignation of Rev. A. J. Westland, chairman of the Speakers Bureau, it is not possible to give the exact number of talks given this year. Father Westland was transferred out of El Paso, and did not leave a report. The office has listed twenty educational talks to schools, PTA groups and clubs.

THEATERS

Due to the inability of Interstate Theaters to show our trailers this year, only four independent theaters gave us publicity at Christmas Time. These were two drive-in theaters, and two small theaters serving rural areas.

Mobile X-ray unit report beginning September 1945 and ending December 1, 1949.

76,858 Number of x-rays taken
1,139 Infiltration cases
236 Other Pathology
72 Heart

Active number found by the unit totals to 81.

Audio Visual Education Report for year beginning April 1, 1948 to March 31, 1949.

Title of Films	*Showings*	*Attendance*
This is T. B.	32	1,956
Let My People Live	15	1,111
Target T. B.	20	1,139
Cloud in the Sky (Spanish)	17	2,145
Lease on Life	38	3,107
Cloud in the Sky (English)	26	1,488
Goodbye, Mr. Germ	37	2,699
Another to Conquer	19	1,197

Films are on loan to the audio-visual department of the El Paso Public Schools for showings therein.

II

"To further the instigation of legislation for the maintenance of more hospital beds for the tuberculous through its legislative committee and medical-advisory committee".

Under the leadership of Dr. J. W. Laws, letters were written to the members of the City Council, the Mayor, the County Judge, the Commissioners' Court, and the other interested persons which resulted in the expansion of the facilities in tuberculosis control at City-County Hospital. The bed capacity for the tuberculosis ward was increased from 45 to 62. The solarium for patients has again been released for recreational purposes, and will be re-furnished with adequate furnishings to meet the needs of the patients, under the direction of Mrs. Elizabeth Marcus, nurse-in-charge.

The medical-advisory committee is and has been at all times informed as to the activities of the association; and through its chairman, Dr. J. R. Fuchlow, and its members Dr. J. W. Laws, Dr. Herbert Bell, and Dr. R. B. Homan, Jr., has worked in close co-operation with the County Medical Society to disseminate information concerning the different phases of our program. Publicity was given our program in the Medical Journal. The article had wide distribution in medical circles, and is but one example of the splendid co-operation given our program by the Medical Society.

III

"To work in closest possible co-operation with the City-County Health Department in the co-ordination of the tuberculosis control program for El Paso area."

In August, 1948, the City-County Health Depart-

ment of El Paso purchased a 70MM x-ray equipment to be used in the routine semi-annual examination of over 3000 food handlers in El Paso, city and county. This released our x-ray equipment from the clinic for use elsewhere. At the suggestion of Dr. J. R. Fuchlow, and executive committee of the El Paso Tuberculosis Association, this equipment was offered to the City-County Hospital for x-raying of all outclinic patients, all nurses and hospital workers, and in time to all admissions to the hospital. Because of change in the hospital personnel, the program has been slow in getting started, but we have the assurance of W. E. Avery, hospital superintendent, that the program will be carried through during the coming year.

In cases where it is impossible for large numbers of food handlers to come to the clinic of the Health Department, the mobile x-ray equipment of El Paso Tuberculosis Association is taken to the establishment. All such x-ray film, cards, and records are turned over to the tuberculosis control clinic for filing and reference.

The case register, purchased for the tuberculosis control clinic some years ago, has been working out most satisfactorily, and is kept by a clerk paid by the Health Department. It is kept in the tuberculosis control clinic, under the supervision of Mrs. Elizabeth Abbott.

The closest co-ordination exists between the City-County Health Department and the El Paso Tuberculosis Association. Dr. L. T. Cox, director, Dr. J. W. Laws, director of tuberculosis control, and Mrs. Elizabeth Abbott, supervising nurse, have taken over the complete follow-up of all cases found on the mobile unit, x-raying or tuberculin-testing of all contacts, physical examinations, fluoroscoping, and such care and treatment of cases as may be necessary and advisable. All hospital admissions to the tuberculosis ward of the City-County Hospital are made by Dr. J. W. Laws.

IV

"To continue work with James Abernathy of the State Rehabilitation Office for more rehabilitation of tuberculosis patients."

Mr. Abernathy is a board member of the El Paso Tuberculosis Association, and works in close cooperation with Dr. J. W. Laws and Mrs. Elizabeth Abbott in the rehabilitation of all patients. We all agree that rehabilitation should begin with diagnosis, and we hope that some day that may be possible.

V

"Build up and further the Chirstmas Seal Sale by all possible means."

Our Seal sale mailing list was increased from 18,491 in 1947 to 22,363 in 1948. New names were secured from the telephone directory, the commercial recorder, and as an experiment, a few names were taken from the better addresses out of the city directory. El Paso has the peculiar situation that 25% of its new names in the telephone directory change every six months so that our phones do not yield as much as they should. The commercial recorder with its new meter installations, new car registrations, and birth records, furnished us with a list which paid off equally well with the phones. Our experiment with the city directory names will NOT be repeated. (It was sad).

VI

"Put into practice the constructive suggestions offered by the State and National Tuberculosis Associations for a better program and better means of accomplishing the ultimate and desired results."

Upon the suggestions of Miss Clarissa Boyd, National Tuberculosis Association field worker, the El Paso Tuberculosis Association revised its constitution and by-laws during 1948. A copy of the revision is filed with Miss Pansy Nichols of the Texas Tuberculosis Association.

R. C. Ortega, during the year, made two visits to El Paso to help further the tuberculosis control work with the Spanish-American groups, and to re-organize, on a different basis, the Pan-American Health Council. Mr. Ortega has been most helpful, and we hope we can have his services often.

Mrs. Ada Yerwood, Texas Tuberculosis Association worker for negro groups, paid her first visit to El Paso, this year. Mrs. Yerwood was impressed by the work being done by the negro group here, and made some very constructive suggestions for the cooperative work between this group and the El Paso Tuberculosis Association. These suggestions are now under consideration by the executive committee, and recommendations will be offered to the Board of Directors in the near future.



The mobile x-ray truck and trailer unit belonging to El Paso Tuberculosis Association which services all schools and other organizations in a three-county area.

THE PATIENT RETURNS HOME

By Maxwell Rosenblatt, M. D.

Both The Individual Discharged From Sanatorium And The Community To Which He Returns Are Responsible For After-Care And Rehabilitation in Tuberculosis

(Reprinted from the *J. C. R. S. Bulletin*)

If it is true that a chief function of sanatorium treatment is the health education of the patient, then it is proper to consider his discharge from the sanatorium as a commencement, the same as graduation from school is a commencement. By the time of his discharge he should have learned certain fundamental facts about tuberculosis. But more than this, he should have learned how to live with his disease — so that it may be that life becomes richer, not in spite of his sanatorium stay, but because of it.

Life in a hospital (and it might be wiser to use this word in place of sanatorium for it comes closer to the modern attack on tuberculosis) is not a real efficiency test, nor is it meant to be. It is only a preparation and a beginning for life. The patient has learned, if he will, how to use his body with intelligence and moderation. Life in the hospital is not sharply cut off from life outside. There is a blending. But the real test is after discharge.

PATIENTS' QUESTIONS

Now the patient about to be discharged, or considering discharge, may want to know what he can do to stay well, and if there is anything he can do to make his chances of staying well better. It should be stressed that the answers to these questions are different for each patient. Just as when he enters the sanatorium his treatment is mapped out for him on an individual basis so when he leaves advice is given to him specifically. But there are a few generalities of which we can speak.

The patient who leaves with the consent of the staff has a better chance of remaining well than the one who leaves against advice. This has been proven statistically by the fact that more of the latter suffer relapses than the former. The patient who leaves against advice is pitting his judgment and knowledge of his disease against the staff. The doctors do not claim omniscience, but the patient that disregards their advice lengthens odds against himself. We can say that the more completely tuberculosis is arrested at the time of discharge the better is the chance that the patient will not have a breakdown.

ONE DOCTOR

The patient after discharge should choose one doctor or one clinic and stick to his choice. As a general rule it is an unwise policy to shop around for medical advice. There may be reports that conflict and only serve to confuse the patient, because he does not permit anyone sufficient time to study him thoroughly. After he has made his choice, the patient should follow the instructions of his doctor or clinic.

Each day following discharge that the patient remains well increases his chances of staying that way. Most of the relapses occur during the first year after discharge, and a lesser number in succeeding years. If a patient has been all right for two years after leaving the sanatorium his chances of staying this way are good. A frequent question of the patient about to be discharged is "How much can I work?" Generally speaking he should work and rest as much as he did during the last few months of his sanatorium stay. His doctor on the outside will then increase his work hours if he thinks this advisable.

COMMUNITY RESPONSIBILITY

Thus far we have talked about the patient's responsibility once he leaves the sanatorium. But the community has a responsibility, too. The patient needs not only sympathy, a very cheap commodity, he needs understanding, at times, a helping hand. He needs and wants a friendly environment, not a fearful and hostile one. As an example, it is wrong if the discharged patient can obtain work only by hiding his health history. The employer, then, is a factor in the patient's readjustment. But so are all the living conditions at home. What kind of housing is available or can he have? Can the proper food be obtained in adequate amounts?

You see, besides medical care, sociology and industrial management enter into the after-care of tuberculosis. We come to realize the role of the community in the finding of a person with tuberculosis. We must realize the community's important part in the rehabilitation program.

We are seeking, of course, in our tuberculosis control program a biological "cure" for the patient. That is, we want to make his sputum free from tubercle bacilli. But besides this there is a large field of the social adjustment of the patient. And it is because tuberculosis is not an isolated problem but has rather in its totality a social and economic background, that the community must play a leading role in its eradication.

GUEST SPEAKERS NAMED FOR NEW MEXICO SOCIETY MEETING

The list of major guest speakers for the annual meeting of the New Mexico Medical Society, May-4-6 in Milton Hall of New Mexico Agricultural and Mechanical College in Las Cruces, has been completed.

The list is designed to be attractive not only to members of the New Mexico Society but to out-of-state physicians from Arizona, West Texas, and the northern states of Mexico. A large attendance from the Southwest is anticipated.

The speakers will be:

Dr. Allen J. Enelow, member of the faculty of the Menninger School of Psychiatry and member of the psychiatric staff of Winter Veterans Administration Hospital, Topeka, Kansas.

Dr. Russell J. Blattner, pediatrician of Baylor University College of Medicine, Houston, Texas.

Dr. Willard R. Cooke, professor of obstetrics and gynecology, University of Texas Medical Branch, Galveston, Texas.

Dr. Nathan A. Womack, department of surgery, University Hospitals, Iowa City, Iowa.

Dr. J. S. Speed, orthopedist, member of the Campbell Clinic, Memphis, Tenn.

Dr. Henry M. Winans, professor of medicine, Southwestern Medical Foundation, Dallas, Texas.

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Southside District Hospital was chartered as a non-profit general hospital in 1922. During the early years its functions were carried on in an old two-story home; and it was 1935 before the first brick wing was built. Additional construction in recent years has increased its capacity to 120 beds, and 24 bassinets.

The new obstetrical unit, opened in March, 1949, provides the finest facilities for the care of mother and baby. There are twenty-two beds in bright and attractive rooms, four labor beds, two air-conditioned delivery rooms of the most modern type, 24 bassinets, nursery, isolation nursery, and spacious work-rooms.

Recently completed alterations have doubled the space provided for laboratory and X-Ray facilities, as well as providing a well-equipped 25 bed pediatric unit. Plans for new X-Ray diagnostic and therapy equipment have been approved, and orders are to be placed at an early date.

In January of this year the Board of Trustees appointed Dr. Lloyd C. French, former Administrator of Knickerbocker Hospital in New York City, as Administrator of Southside District Hospital. Born on a Wisconsin dairy farm, he attended the public schools, and was graduated from Ripon College with an A. B. degree.

After several years experience as a teacher and salesman, Dr. French entered the graduate school of the University of Pittsburgh, receiving the degree of Doctor of Philosophy in Administration in 1932. He has served in various administrative posts in Pennsylvania and New York before assuming his present position.

A. J. FILLMORE, M. D.
Regional Editor

SOUTHWESTERN MEDICINE takes pleasure and satisfaction in extending the most sincere felicitations to officials and staff of Mesa's Southside District Hospital on the great strides taken in providing improved health and medical facilities for the people of their area. It is just such concrete achievements as these which represent the most valuable insurance against the encroachments of socialized medicine. — THE EDITORS.

NEW MEXICO COUNTY OFFICERS TO CONFER

County and state problems, plans, and objectives for the coming year will be discussed at the first annual conference of new county society presidents and secretaries February 11 in Albuquerque. The Conference will begin with a luncheon in the Greer Room of the Hilton Hotel.

Reports will be given by A. S. Lathrop, M. D., Chairman of the Legislative and Public Policy Committee; Stuart W. Adler, M. D., Chairman of the Rural Health Committee; R. L. Young, M. D., Chairman of the Basic Science Committee; and C. P. Bunch, M. D., Chairman of the Public Relations Committee.

John Simms, Jr., Speaker of the State House of Representatives, will speak on "Effective Lobbying," and Keen Rafferty, secretary of the New Mexico Press Association, will discuss, "You and Your Local Editor."

"Medical Public Relations" will be discussed by Dick Graham, Executive Secretary, Oklahoma State Medical Association, after the banquet in the evening, which will conclude the meeting.

RECENT CLINICAL STUDIES WITH PARA-AMINOBENZOIC ACID

"Para-aminobenzoic acid in the form of sodium para-amino-benzoate (NaPAB) was administered in large doses to thirteen patients with leukemia. Six patients with chronic myelogenous leukemia had a definite decline in their white cell count. Transient clinical improvement was observed in some of these patients. Upon discontinuation of the drug, leukocyte count increased. It was impossible to evaluate the effects of NaPAB in the seven patients who had other forms of leukemia . . .

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"It is emphasized that NaPAB is not a cure for these varied conditions of unknown etiology. These findings, however, along with previous observations, indicate a broad range of physiologic activity for this compound." — Zarafonetis, C. J. D., Am. J. Med. 5;4:625 (Oct.), 1948.

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Vol. XXXI FEBRUARY, 1950 Number 2

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1. Friedlaender & Friedlaender: Amer. Pract. 2:643, June, 1948

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March, 1950

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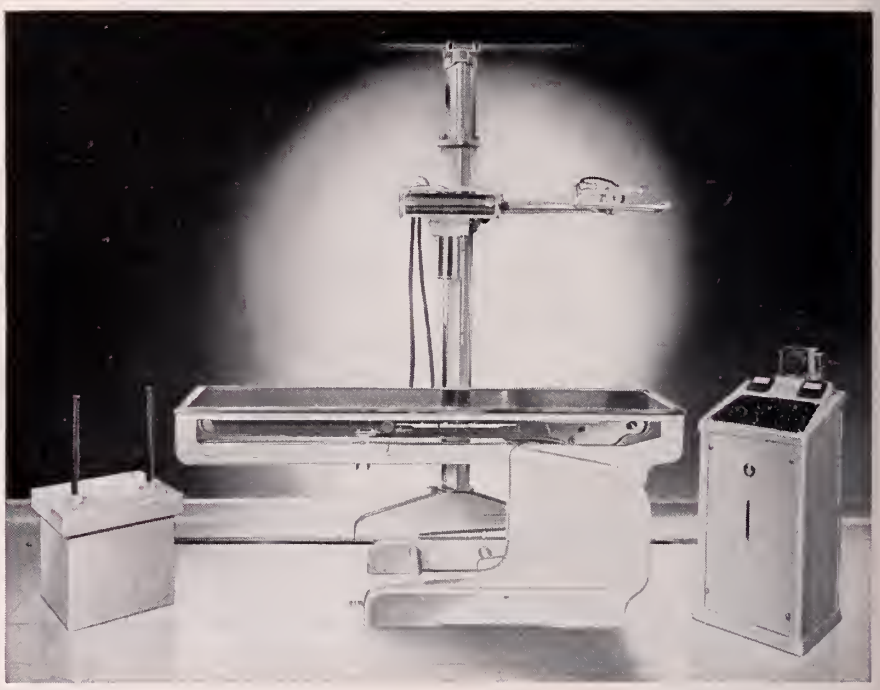


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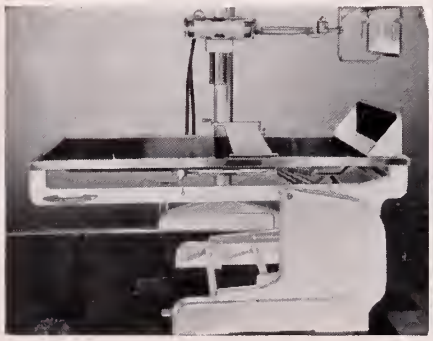
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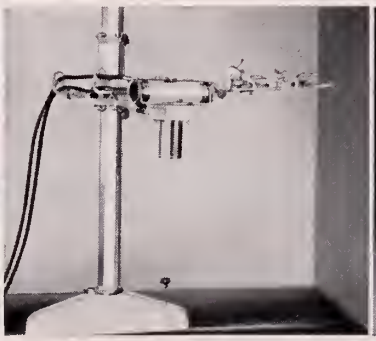
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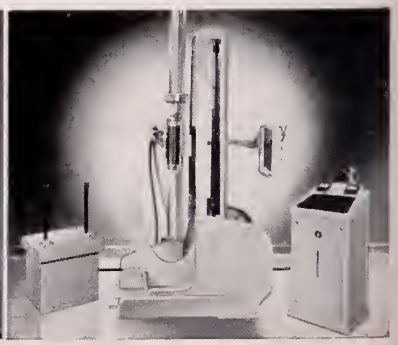
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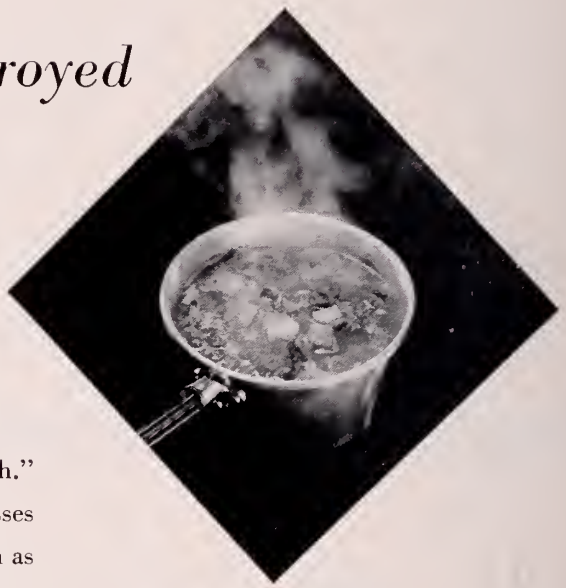
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EXCERPTS FROM THE RECENT TALK OF DR. GEORGE V. BRINDLEY, PRESIDENT OF THE TEXAS STATE MEDICAL ASSOCIATION, BEFORE EL PASO COUNTY MEDICAL SOCIETY

A large and enthusiastic audience of physicians and auxiliary members were afforded the unique opportunity of hearing Dr. Brindley, discuss the problems confronting the medical profession. Dr. Brindley literally is the pulse of the medical profession in Texas. His ability as a surgeon and his great acquaintance with Texas medicine over a period of many years renders him particularly qualified to discuss intimately these problems, both on a state and national debt.

Dr. Brindley has the rare facility of being able to bring to his audience the personal touch of the physician, and by this presented a notable discussion of many controversial points.

RELATION OF THE PHYSICIAN TO THE STATE MEDICAL SOCIETY

Now the first objective was this; that we should strengthen and increase the membership and organization of our County Medical Societies, and see to it that they are all properly chartered. There are at this time about six thousand members of our State Association; there are nearly nine thousand doctors in Texas, 8531 to be exact. That means this; that about one third of the doctors in Texas are not members of organized medicine. The only way that a doctor can be a part of organized medicine is through a County Medical Society, and that is the only way you can be a part of your State Medical Association; that is the only way you can be a part of the A.M.A. So I do say that it is the duty of all our County Medical Societies to do what we can to bring all of the bona fide physicians in that county, or in the jurisdiction of that county, into the membership of your county medical society. According to the ethics of the American Medical Association a doctor should become affiliated with a county medical society in order that he may promote the objectives of that medical society; that he may become better qualified; and that he may better serve the people of the community.

HEALTH SERVICE FOR RURAL COMMUNITIES

Another objective; the Association should provide better health service for the rural communities. This certainly is a major problem; it is one of the foremost important problems confronting the Association at this time. In addressing the graduating class at Galveston this part June, I made the remark that I hoped that a number of the graduating class would become specialists of general practice. It is estimated that probably about 80% of the health needs of the people can be met adequately by the general practitioner, so we should do what we can to encourage more young men to become general practitioners of medicine. In Kansas they have done more than in any other one state to meet this need. They have done this: they have encouraged those communities that need doctors to build small clinics, or small offices. In Kansas they have told all communities where doctors are needed that they should interest the community in building a small clinic or a small office for a doctor, and then if a doctor comes in that community, make him part of the community, and take him into their community life.

Down in Austin this past week-end, there was an executive council of the State Federal Association; and this resolution was submitted before the Delegates from Texas to the American Medical Association, and this was the resolution that'll come up in the American Medical Association again; "that every practitioner of Medicine would have to serve one year in a town of 5000 inhabitants or under before he could be eligible for any speciality board". This was wholeheartedly approved by the delegates of the American Medical Association.

ADEQUATE MEDICAL SERVICE TO THE INDIGENTS OF THE STATE

Another objective; the Association to formulate a concrete, practical, workable plan that will bring adequate medical service to the indigent of the State. That is quite important. Maryland has done more from that standpoint than any other state. They have a state tax to take care of the indigent. They find that only about five per cent of the people are badly in need, as indigents, for indigent care. It might be interesting to note that about five per cent of the families have incomes in Texas under five hundred dollars; about eleven per cent have incomes under one thousand dollars; about twenty-seven per cent have incomes under two thousand dollars. Doctors should take this into consideration in rendering medical treatment. Also doctors have an obligation to meet the health needs of the people of the state. For this reason, in talking to Dean Calvin, he tells me that the State of Texas spent from ten to eighteen thousand dollars. That's the point. Now get this; they spent from ten to eighteen thousand dollars to educate a doctor. So if the people of the state have spent eighteen thousand dollars to educate you, you certainly have an obligation to work for your state in bringing to the people of the state adequate health care.

GRIEVANCE COMMITTEE

There is going to be organized, or be brought up at the House of Delegates, at the next state meeting in Fort Worth the establishment of a Grievance Committee in Texas. Now that was first formed in Colorado. Colorado was the first state to form a Grievance Committee. That is a committee wherein any patient may make a complaint in regards to health care of her physician, or in regards to fee, or in regards to emergency calls, and the Committee has one doctor from every district. If there is one complaint from a certain district, the Councillor from that district could have no say in regards to the grievance or complaint of that one district. It would be given to the people, and they would be told that they have a place where they can go and file complaints, and have a sympathetic hearing. That is going to come up at our next House of Delegates, and six states already have it; the American Medical Association has advocated the formation of Grievance Committees in other states.

HEALTH SERVICE TO THE NEGROES OF THE STATE OF TEXAS

A committee was formed this year, consisting of two past-presidents, two members of the Board of Trustees, two Professors of Medicine, and a man who was reared with the problems of the Negroes to study the health care and to make recommendations to the State Medical Association at its next annual meeting as to what our relationship to the Colored People should be. That will come up at our next House of Delegates meeting. It might be interesting also to

tell you this. That at this time there is a Negro studying medicine at Galveston. We have one Negro medical school in the State. That's very new. They are affiliated with the Jefferson Davis Hospital.

RECOGNITION OF THE PRACTICAL NURSE

Another objective that's worthy of mention is this. To secure through proper legislation, proper recognition of the practical nurse, and regulations for education and training. There are several reasons for that. We have at this time about 280,000 registered accredited nurses in the United States that are active. We have 17,000 registered nurses in Texas. Now in the United States we have about 119,000 practical nurses; we have 4,675 in Texas. That means this; that approximately one-third of your nursing personnel are practical nurses. There are 51 schools in America for the training of practical nurses. We do not at this time have any laws regulating and giving recognition to the practical nurse in Texas. We do believe that there are nursing services than can be well performed by the practical nurse, and thus should bring to the people a more economical health service. So we should do what we can to make health care more economical, and we do believe that the practical nurse should be regulated and licensed in Texas.

SOCIALIZED MEDICINE

Take England; take New Zealand. Following the socialization of medicine, there has been the socialization of other industries; that is banks, transportation, of railroads, of steel; and Mr. Bevan, who is Administrator of Health in England, made this statement; that he would not be satisfied until capitalism was completely destroyed in England. So we should be concerned not so much about the socialization of medicine; if that was all, it would probably not be so bad; but it's where it leads. Always following the socialization of medicine, there has been a socialization of other industries.

I think another important question to ask is this. What is the economic status of those countries where we have socialization? We know that the economic status of all of the people of Europe and of England is poor. What does socialism do? It destroys initiative, self-respect, thrift, courage, hope, freedom. It debases the moral life of our people. It brings about waste, want, lower standards of living, poverty, and despair. I had the privilege about a year ago of hearing Dr. Jones of New Zealand describe how socialism functioned in New Zealand. It is gratifying to know that just a few weeks ago New Zealand repudiated socialism. Dr. Jones made this statement. "That socialism does four things: it increases indolence; it disapproves of the doctrine of individualism, of self-respect; it strikes at the very moral fibre of our young people; and it destroys character". He concluded his address by making this statement. "I hope that all of you will come up to me and tell me that you have enjoyed my address, because I hope it will cause you much concern because just eleven years ago my country was just like your country is today. We didn't think it could happen in New Zealand, but it did, and you people are much nearer to socialization than you think you are, and it makes me very unhappy to think that my children must grow up in New Zealand under the influence of socialism".

ANOTHER QUESTION

Another question I think we might briefly ask is this. What is the religious status of those people where we have socialism? We read frequently in our papers about religious persecutions in Communistic and Socialistic countries in Europe.

In May there was an article in the Saturday Evening Post saying that in Russia the young people were taught that there was no God.

Realizing all these facts I come to ask you why we should not do all that we can, and why we should not resolve that we will become interested in the problems of organized medicine to the end that we may not only preserve peace for American Medicine, but that we may have a part in preserving freedom for the people of this nation.

CONCLUSION

In conclusion let me read you a little comment, and then I'm through. Edna St. Vincent Millay says that "a nation is a tremendous river of people, pushing and forcing its way through time. It can wind down through cruel circumstance only to be dispersed in mud and swamps if the current of this life slows down." That has happened to both Germany and Britain. In conclusion, I would say, let us not be dispersed in the mud and swamps of socialism, but rather let us be a great people content to live on the plains and mountains of free enterprise, being free to think, to write and to speak our thoughts, to choose our avocation, to live in the place of our choosing, to be free to consult the lawyer, the dentist, or the doctor of our choice, to have a part in our local and national government, and a voting citizen, to have the right to dream dreams, and to work to make those dreams come true, and above all to be free to worship God according to the dictates of our own conscience.

If doctors believe, as do the majority of the American people, in private enterprise; and that private enterprise tends to develop the best in the individual, certainly when we come to depend upon the government, we lose our independence. That is our freedom, and when we lose freedom, we lose the joy of living. I would urge that all of us become tremendously concerned about these problems, and do what we can to preserve that freedom which our forefathers fought and won for this nation. I thank you for your attention.

THE MEDICAL AUXILIARY

The El Paso Auxiliary was honored by the presence of Mrs. Joseph B. Foster, president of the Auxiliary to the Texas State Medical Association of Texas, at their meeting in El Paso, January 9. Mrs. Foster spoke as she expressed it, "off the cuff", and said in part:

"I am sure it will be gratifying to you to know that in Texas both the Legislature and Senate have strong resolutions against any form of socialized medicine. Others passing resolutions against it at their national conventions have been The Daughters of the American Revolution, the National Federation of Women's Clubs, the American Legion Auxiliary, and many others. These resolutions make us feel that we are not alone in this fight, but surely must be the spark that keeps it going."

F. B. I. ACTIVITY

Regarding the intimidation of the medical profession, Mrs. Foster stated:

"I am sure most of you know that in the recent weeks the A.M.A. Headquarters in Chicago, and some sixty other State and County Societies throughout the country have been swarming with F. B. I. investigators, going over all their records. Of course we know this is in retaliation of the part the doctors played in defeating the President's re-organization plan. This makes us realize just how dangerous the situation is when the government will go to such lengths to intimidate the medical profession."

INDIVIDUAL RESPONSIBILITY

"In conclusion, in urging you to assume your individual responsibility and to work untiringly for the things for which you stand, I would like to quote two little quips we heard at the national meeting:

'People who do things make mistakes, but don't make the mistake of doing nothing.'

'Even if you are on the right track, if you sit still you will be run over.'"

ARE YOU ASHAMED?

Shame implies dishonor. It further implies consciousness of dishonor. The recent activity of the Department of Justice constitutes a severe abuse of public power in the opinion of the medical profession in general. The current opinion is simply that the attack on the medical societies is politically motivated with the express intention of discrediting and intimidating the societies in the hope that the fight against socialized medicine will be slackened.

The profession has in its ranks, however, physicians who disagree, and the following letter, written by that altruistic proponent of socialized medicine, our old friend, Channing Frothingham, to the editor of the **New England Journal of Medicine** sets forth the train of thought of these individuals:

A PHYSICIAN DISAGREES

To the Editor: *Fair-minded physicians who are members of the American Medical Association must feel ashamed of the official statement put out by the Board of Trustees of the Association in the October 15 issue of the* Journal. *In this statement the Trustees accuse the Department of Justice of the United States of waging a campaign to discredit American medicine and terrorize physicians into abandoning their opposition to compulsory health insurance. A careful perusal of the complete statement fails to show any concrete evidence to support this claim. A series of assumptions apparently forms the basis for this attack upon the integrity of the Justice Department of the United States.*

In view of the past history of the American Medical Association and the evidence of persisting activities on the part of various groups in organized medicine, in violation of existing laws, to interfere with the development of plans to improve the delivery of medical care it seems that the Trustees are not in a very satisfactory position to try to besmirch the activities of the Department of Justice.

Actually, in 1938 the American Medical Association was convicted for breaking certain laws in the celebrated case of the Group Health Service in the District of Columbia, and this conviction was eventually upheld by the Supreme Court of The United States. In this instance it was the American Medical Association that was trying to discredit a group of physicians and to terrorize physicians from developing a plan to deliver medical care. Since then the Department of Justice has been receiving complaints from physicians and lay groups that similar tactics are being employed by organized medicine throughout the country. Investigation has provided enough evidence of disregard of the law by organized medicine to make the Department of Justice decide to bring suit in two instances. It seems only fitting in view of these facts that the Department should investigate further the numerous complaints that are made to it. To claim without evidence that such actions are aimed at terrorizing physicians rather than to compel them to obey the law seems quite unworthy of men honored by the medical profession to hold the high office of Trustees of the American Medical Association. I believe the national medical society should urge individual physicians and organized groups of physicians to obey the laws as they exist.

*If any group does not believe in the existing laws it is fitting that attempts should be made through authorized methods to change them. The profession and the public should realize that there are thousands of reputable physicians who believe in the development of a national health program to be financed in part by compulsory health insurance such as President Truman favors.**

Channing Frothingham, M. D.

When Dr. Frothingham states that fair-minded physicians who are members of the American Medical Association must feel ashamed, he is expressing simply his own opinion, and he should realize that the antonym of shame is pride, and truly the vast majority of the medical profession are proud of their stand as regards the Gestapo-like methods of the Department of Justice.

*(New England Journal of Medicine—Vol. 241, Dec. 1, 1949, No. 22, Page, 886.)

A. M. A. DUES

On the recommendation of the Board of Trustees, the American Medical Association House of Delegates has set A. M. A. membership dues at $25 for the year 1950. Prior to this time, there have been no A. M. A. membership dues. A physician who was a member of his local county and state societies was automatically a member of the A. M. A., although the latter association received no part of the dues paid to the local society. The non-dues paying members of the past must be differentiated from the Fellows of the scientific assembly of A. M. A. Fellows have paid annual dues of $12 as a subscription fee to the Journal of the A. M. A. Fellowship dues will remain at $12, in addition to the membership dues of $25. In 1949, there were 144,000 members of which 81,000 were Fellows.

The newly assessed dues are to be collected by the County Society Secretary, forwarded to the State Association Secretary, who in turn, forwards them to the Secretary of the A. M. A. Fellowship dues are to be paid directly to the A. M. A. as in the past. Dues for membership in the A. M. A. are now compulsory, as in any organization, but a doctor may continue to be a member of his local and state association without being a member of A. M. A.

The following members may be exempted from the payment of A. M. A. membership dues: retired members; members who are physically disabled; interns; and those members for whom the payment of such dues would constitute a financial hardship. No member should be exempted who is not exempted from his county and state society dues.

The necessity for dues to the A. M. A. at this time should be obvious to every doctor. In the past the vast program of the Association for the betterment of the health of the American people has been carried on by income from its various publications and from Fellowship dues. This program has standarized medical education, eliminated diploma-mills; standardized drugs and physical appliances; eliminated charlatans and quacks; standardized hospitals and brought about the great public health improvements of our generation. This portion of the A. M. A. program shall continue to be financed in the same manner.

Now the American people and the American doctors find themselves confronted by socialized medicine and the Welfare State. A campaign opposing this drift toward socialism was started in 1949, by the A. M. A. through voluntary assessments from its members. This highly successful National Education Campaign must be continued. Your membership dues will be used to tell the American public the truth about the Welfare State and compulsory health insurance. They shall be the judge and jury.

Robert B. Homan, Jr., M. D.
El Paso, Texas

Dr. A. H. Butler

A. H. Butler, M. D., who had practiced medicine in the Southwest for more than 40 years, died last month. Dr. Butler was particularly well-known in this section of the nation because for 16 years he was superintendent of El Paso City-County Hospital, now El Paso General Hospital; and many physicians from all section of the Southwest interned under him.

Dr. Butler was born and reared in Alexandria, La. He took his college and medical degrees at Tulane University, and opened general practice in El Paso in 1908. During the first World War he served as a captain in the U. S. Army Air Corps Medical Corps and was a forerunner of the modern flight surgeon.

Following the war he practiced for 12 years in Zacatecas, Mexico, before returning to El Paso and taking over the superintendency of El Paso General Hospital. His widow is the former Cora Hickman of Alexandria. They have one son, Col. A. H. Butler of the U. S. Marine Corps.

Dr. E. Grady Causey

The recent and untimely death of Dr. E. Grady Causey of El Paso came as a shock to his many friends and colleagues in the Southwest. Dr. Causey was born in Healing Springs, Ala., in 1902 and at the age of 14 moved to Douglas, Ariz., where he graduated from high school. He took his pre-medical education at the University of Arizona and was graduated from Louisville, Ky., Medical College.

He interned at El Paso City-County Hospital; then opened practice in the West Texas metropolis in 1928. He specialized in surgery. He served as a major in the U. S. Army Medical Corps during World War II and for two years was station in India.

Dr. Causey is survived by his widow; his mother, Mrs. Z. Causey; two daughters, Mrs. Joe Tooley, 22; and Lou Ann Causey, 13; and two brothers, Dr. Paul Causey of Phoenix, and Dr. Joe Causey of Douglas.

Dr. Ernest Allen Duncan

Dr. Ernest Allen Duncan died recently at his home in El Paso after a prolonged illness. He was 65 and had practiced medicine in the Southwest for more than 30 years. He was particularly noted for his diagnostic work.

Dr. Duncan was born in Clarksburg, West Va., in 1885. He took his B. A. at Kenyon College, Ohio, and his medical degree at Western Reserve University in Cleveland. He was a member of Phi Beta Kappa, Delta Kappa Epsilon, and Nu Sigma Nu.

He came west for reasons of health, practiced briefly in Albuquerque and then moved to Silver City, N. M., where he lived and practiced for several years.

During World War I he served as a captain in the U. S. Army Medical Corps. After demobilization he moved to El Paso where he maintained his office and practice until his death. He is survived by his widow, the former Elizabeth Terry.

ARIZONA PSYCHIATRISTS MEET

The Arizona Society of Psychiatry and Neurology will meet at 3 p. m., March 18 in Tucson Medical Center, Tucson.

Dr. Tracy J. Putnam, eminent neurologist, will speak on "The Treatment of Epilepsy."

PHILIP S. GREENBAUM, M. D., *Tucson*

NEW MEXICO SOCIETY MEETING LECTURE SUBJECTS ANNOUNCED

Guest speakers for the annual meeting of the New Mexico Medical Society, May 4-6 in Milton Hall of New Mexico Agricultural and Mechanical College, have announced their subjects.

Dr. J. S. Speed will present: 1. Treatment of Ruptured Intervertebral Discs and 2. Surgical Treatment of Difficult Nonunions of Long Bones by Means of Bone Grafts.

Dr. Allen J. Enelow's subjects will be: 1. Alcoholism: Problems of Treatment and Research; and 2. A Psychiatric Viewpoint in the Practice of Medicine.

Dr. Henry M. Winans will present: 1. The Significance of Pain, and 2. Who Has Heart Disease?

Dr. Willard R. Cooke has chosen: 1. Moot Issues in Gynecology; and 2. Dystocia.

Dr. Nathan A. Womack's subjects will be: 1. Benign Lesions of the Breast, and 2. Surgical Treatment of Peptic Ulceration.

Dr. Russell J. Blattner will present: 1. Diagnosis and Therapy of Virus and Rickettsial Infections, and 2. Meningitis.

LELAND S. EVANS, M. D., *Las Cruces, N. M. Regional Editor*

EFFECT OF NITROGEN MUSTARD ON RENAL MANIFESTATIONS OF HUMAN GLOMERULONEPHRITIS

"Since there is reason to believe that diffuse glomerulonephritis may be the result of immunological alteration in renal tissue, it seemed conceivable that a common factor might be operative in infection and following the administration of [nitrogen mustard]."

"Observations were made on daily weight, 24 hour urinary volume and urinary protein excretion, rate of glomerular filtration . . . and renal plasma flow . . . in . . . patients with chronic diffuse glomerulonephritis in the nephrotic phase."

"HN_2 was administered intravenously to 3 patients in 2 doses of 0.2 mg per kilo on successive days . . . [These] doses of HN_2 reduced proteinuria but diuresis failed to occur in 2 patients with advanced chronic diffuse glomerulonephritis with marked renal functional impairment. However, in one patient with minimal renal functional impairment, administration of HN_2 was followed on 2 separate occasions by diuresis, marked reduction in proteinuria and concomitant increase in filtration rate, a combination of effects consistent with a return of glomerular function towards normal. Our observations indicate that reversal of renal manifestations of human glomerulonephritis can be induced by HN_2. This study is being extended to include patients in earlier phases of glomerulonephritis." — Chasis, H., Goldring, W., and Baldwin, D.S., *Proc.Soc.Exper.Biol.&Med.* 71:565, 1949.

PRESTIGE OF GENERAL PRACTITIONER

In a paper, "Upholding the Prestige of the General Practitioner" by Wingate M. Johnson, M.D., read at the General Practitioner session of the American Medical Association held in Cleveland (January 6, 1948) the Council of Medical Education and Hospitals was quoted as follows: ". . . it was never intended that staff appointments in hospitals generally, or even in hospitals approved for residencies, should be limited to board-certified physicians as is now the policy in some hospitals. Such policies . . . are detrimental to the health of the people, and therefore to American Medicine. . . . ."

The above statment, together with a request that it be implemented, should be sent by the American Medical Association to the administrative body of every hospital in the United States.

THE PRESENT STATUS OF ANTIBIOTICS*

A Discussion for the General Practitioner

By William A. H. Rettberg, M. D., Denver, Colorado

Antibiotics are substances produced during the growth of various micro-organisms which inhibit the growth of **other** micro-organisms. These substances exert a definite chemical and biologic effect upon certain micro-organisms and perhaps upon their products. The mechanism of action of the antibiotics is not definitely known either in vitro or in vivo. In the case of penicillin, it is possible that in the test tube at least, there is a blocking of certain enzyme systems or interference with the nutrition concerned with the growth and multiplication of the particular micro-organism[1]. When we hope than an antibiotic may have a beneficial effect in certain diseases we are thinking not only of the diseases caused by bacteria such as streptococcus viridans or typhoid, but also of parasitic diseases such as amoebiasis and trypanosomiasis; of Rickettsial diseases such as Rocky Mountain Spotted Fever and typhus; and even of virus diseases such as the majority of childhood diseases, virus pneumonia or the common cold; or of those diseases caused by fungi, yeasts, or spirochetes. The goal is to find antibiotics which will be effective against all pathogens.

FRUITFUL FIELD

Our search has barely begun but it is a fruitful field in which to search, for there may be as many antibiotics as micro-organisms. The early bacteriologists had such a "new world" in which to work but without help from the modern biochemist. It is our purpose here to set before you established facts concerning antibiotics that we may intelligently use these tools, which have been forged with such great effort. One must know with what pathogen he is dealing in order to decide what treatment is best. Because of present high costs, one should know the optimum dosage of the particular antibiotic in a specific disease. It is obvious that we do not mean a life-saving medication should be withheld because of cost. But we often tend to over-treat infections with antibiotics. Especially is this true in hospital practice where penicillin continues to be given in larger doses and over longer periods of time than is necessary, in spite of the patient's protestation that his fundament is a bit irritated. The cost of an antibiotic is also determined by its auxiliary costs, i.e. whether the patient will require a physician or nurse for its administration, or whether the antibiotic may enable the patient to be treated at home, thus reducing the patient's expense[3] and also saving a much-needed hospital bed. One must use the drug which will be of greatest benefit to the patient, taking into consideration the factors of curability of the specific disease, toxicity of drugs used, period of disability of patient, necessity for hospitalization and amount of attendance by nursing and medical personnel.

CLOSELY RELATED

Although sulfonamides are not considered antibiotics but rather chemotherapeutic agents, the two substances are closely related; and one should not forget that treatment with a chemotherapeutic agent may be the one of choice; or combination with an antibiotic may be of greatest benefit to the patient. Since Ehrlich's enthusiasm for chemotherapy and Pasteur's observation that anthrax is inhibited by other bacteria[4], we have been prone to think of two schools of thought or two therapeutic agents: 1. Chemotherapy; 2. Antibiotics. Sulfa drugs have been synthesized but so has chloramphenicol ("chloromycetin")[14]; and streptomycin[11] and aureomycin[15] have both been crystallized. The mode of action of these substances may not be dissimilar. A recent handbook of drug therapy[5] considers both sulfonamides and antibiotics in the same volume, and this is as it should be.

Intelligent use of antibiotics demands that the physician know with what pathogen he is dealing. Much data is available concerning the susceptibility of various pathogens to certain doses of drugs but we cannot discuss each organism and each disease here which might be treated with antibiotics. One should consult a handbook such as "The A-B-C's of Sulfonamide and Antibiotic Therapy[5]" (which I hope will be continually revised and brought up to date) or the current literature. Fortunately, the Council-accepted products contain valuable package inserts which give good advice concerning indications, methods of use and toxicity. We shall confine ourselves here to the more common every day diseases in which antibiotics are valuable. The indiscriminate use of these agents for undiagnosed conditions is to be condemned because all of the antibiotics in use today have some undesirable side reaction, in addition to the fact that insufficient treatment may result in a resistant organism with consequent unsuccessful or difficult treatment of the disease.

Table 1. — Choice of Antibiotics Today (Nov. 1, 1949) in Infections by Microorganisms

	Penicillin	Streptomycin	Aureomycin	Chloramphenicol
1. Pneumococcus (Pneumonia, Mastoiditis, Meningitis)	A	C	B	C?
2. Streptococcus				
a. Group A beta hemolytic (most human infections)	A	C	B	0
b. alpha hemolytic or viridans (SBE & chronic infections)	A	C	B	0
c. Group D, "entero-cocci" (strep. fecalis)	B	0	A	0
d. Anaerobic (post-partum, skin infections, pneumonia & empyema)	A	--	--	--
3. Staphylococcus	A	0	B	0
If severe infection such as bacteremia	A+	0	B+	0
4. B. anthracis (Anthrax)	A (+S.D.)	0	--	--
5. Clostridia (Gas Gangrene, tetanus) (Surgery of most importance here)	A (+S.D.)	0	--	?
6. M. tuberculosis	0	A (PAS)	0	0
7. Meningococcus	A (+S.D.)	0	B? (1 case bacteremia)	--

Legend: A, first choice; B, second choice; C, third choice; D, fourth choice; 0, of no value; (--), value is unknown; (?), indicates choice is questionable because cases reported are too few; (+), indicates combined therapy necessary. S.D. = sulfadiazine. S.M. = sulfamerazine. PAS = para-aminosalicylic acid. S.A. = sulfacetimide.

MINOR INFECTIONS

For treating minor infections involving skin or mucous membrane, penicillin or sulfonamide powders,

*From the Department of Internal Medicine, University of Colorado School of Medicine. Presented at the Joint Meeting of the Southwestern Medical Association Conference and the New Mexico Division of the American Cancer Society, Albuquerque, N. M., Nov. 12, 1949.

solutions, salves, creams or pastes should not be used for fear of sensitizing the patient[6]. Reactions to penicillin G may be the result of such acquired sensitization or a sensitization acquired by contact with a related fungus (athletes' foot). Reaction to crystalline penicillin administered parenterally may be immediate, delayed a few days while treatment is continuing, or delayed from 7 to 15 days after treatment is stopped. These allergic reactions are sometimes very severe and prolonged with giant urticaria and joint effusion incapacitating the patient for many weeks. All the symptoms and signs of severe serum sickness may occur[7] with fever, intense epigastric pain, nausea and vomiting, swelling of the rectal mucous membrane, joint effusion, myalgia and arthralgia, and painful lymphadenopathy. If generalized exfoliative dermatitis or vesicular or bullous eruptions appear, the drug should be discontinued. Asthma has been produced as a result of penicillin inhalation and edema of the epiglottis and larynx has been noted[8]. When one considers the amount of both sulfonamides and crude penicillin that has been used in this country, the per cent of untoward reactions must indeed be small. However, the greatest benefit to both physician and patient will result only if the physician is aware that untoward reactions may occur. A stubborn conjunctivitis or corneal ulcer may necessitate local treatment with penicillin ointment or drops in addition to parenteral treatment, but the ordinary conjunctivitis may be treated with a solution of Zephiran[R] or Phemerol[R]. If this latter treatment does not suffice, culture should be taken. The culture may reveal E. coli or P. vulgaris, in which case, sulfadiazine orally would be the treatment of choice.

Table 2. — Choice of Antibiotics Today (Nov. 1, 1949) in Infections by Microorganisms

	Penicillin	Streptomycin	Aureomycin	Chloramphenicol
8. Gonococcus	A (S.D.)	B	C	C
9. Pertussis	0	--	A (in mice)	? (A in vitro)
10. H. Influenzae				
Moderate	0	0	A	--
Severe (meningitis)	0	B (+S.M. or S.D.)	A (+S.M. or S.D.)	--
11. Klebsiella pneumoniae (Friedlander's, B. mucosus capsulatus)	0	A (S.M.)	0	B?
12. Aerobacter aerogenes (B. lactis aerogenes)	0	B	A	A
13. E. Coli	0	B	A	A
14. E. typhosa	0	0	B	A
15. Salmonella Group (Paratyphoid)	0	0	C	A
16. Dysentery Bacilli	0	0	--	A??
17. B. tularense (Pasturella tularense)	0	B	A	A?
18. B. pestis (Pasturella pestis) (plague)	0	A	--	--
19. Brucella (acute stage) (Undulant Fever)	0	0	A	A

Legend: A, first choice; B, second choice; C, third choice; D, fourth choice; 0, of no value; (--), value is unknown; (?), indicates choice is questionable because cases reported are too few; (+), indicates combined therapy necessary. S.D. = sulfadiazine. S.M. = sulfamerazine. PAS = para-aminosalicylic acid. S.A. = sulfacetimide.

SURFACE INFECTIONS

In treating surface infections, such as staphylococcic infection of the skin, tyrothricin consisting of tyrocidine and gramicidin may be used. It is extracted from Bacillus brevis. This antibiotic is only for topical application in treating gram-positive infections. It cannot be used intramuscularly nor intravenously nor subcutaneously, as it is very toxic. Even irrigating a cavity has its dangers, as it may enter a blood vessel on a granulating surface. Occasionally one finds it irritating to certain skins. Bacitracin, an extract of Bacillus subtilis, has also proved efficacious for minor skin infections. Furacin[R] ointment, 0.2% nitrofurazone N.N.R., has also been effective in our hands for treating minor skin infections. The latter is entirely synthetic. Sensitivity reactions to tyrothricin, bacitracin and furacin are rare; but even if a sensitivity reaction occurs, one hasn't lost much nor sacrificed the chance of using a potent antibiotic or chemotherapeutic agent such as penicillin or sulfadiazine.

SODIUM SALT

Penicillin is usually supplied commercially as the crystalline sodium salt and is mostly penicillin G. In treating a serious blood stream infection ,it is desirable to obtain blood cultures to determine the offending organism. At the outset, one must decide which single therapeutic agent or combination of agents must be given to cure the patient. Many times, the clinical picture is that of subacute bacterial endocarditis and streptococcus viridans will be cultured from the blood. Repeated attempts to culture the organism should be made if no growth is obtained upon the first attempt. Even if the first culture is positive, more than one culture should be obtained to corroborate the findings. If possible, the sensitivity of the organism to antibiotics should be determined. Penicillin will often be the antibiotic chosen. If it is found that the organism is inhibited in the test tube

Table 3. — Choice of Antibiotics Today (Nov. 1, 1949) in Infections by Microorganisms

	Penicillin	Streptomycin	Aureomycin	Chloramphenicol
20. Pseudomonas Aeruginosa (B. pyocyaneus)	0	A	0	A or B
21. Proteus vulgaris	0	B	0	A
22. Ducrey's bacillus (chancroid)	0	A	A	0
23. Rickettsiae (typhus, scrub typhus, Rocky Mt. spotted, Q fever, Rickettsial pox)	0	0	A	A
24. Ornithosis (Psittacosis)	B	0	A	A?
25. Lymphogranuloma Venereum	B	0	A	A
26. Virus of atypical Pneumonia	0	0	A	A
27. Virus of Influenzae	0	0	0	0
28. Common cold	0	0	0	0
29. Rat Bite Fever (Haverhill Fever)				
a. Spirillum minus	B	0	A	--
b. Streptobacillus moniliformis	0	A	--	--
30. Treponema				
a. Syphilis	A	0	B	0 (in vitro & in animals)
b. Yaws	A	0	--	--
31. Leishmaniasis (Granuloma inguinale, Oriental sore)	0	A	A	A
32. E. histolytica	0	0	A	0
33. Trachoma	A (or S. D. orally or S.A. locally)	--	A (local)	--

Legend: A, first choice; B, second choice; C, third choice; D, fourth choice; 0, of no value; (--), value is unknown; (?), indicates choice is questionable because cases reported are too few; (+), indicates combined therapy necessary. S.D. = sulfadiazine. S.M. = sulfamerazine. PAS = para-aminosalicylic acid. S.A. = sulfacetimide.

by a minimum of 0.1 unit of penicillin per cc., we feel that the blood level during treatment should preferably be kept at four to five times this figure, i.e. 0.4 to 0.5 units per cc. According to Long, a single intramuscular dose of crystalline penicillin will produce the following blood concentrations in 15 to 30 minutes: 20,000 units — 0.5 to 0.8 units; 30,000 units — 0.75 to 1.25; 40,000 units — 1.0 to 1.75; 50,000 units — 1.5 to 2.0; 100,000 units — 2.0 to 5.0; 200,000 units — 4.0 to 7.0[9]. Since the level of penicillin in the blood falls markedly at the end of 3 hours, it is desirable to give it every 2 hours. By using a somewhat larger dose, it could be injected at 3 hour intervals. In the case of subacute bacterial endocarditis, treatment must be continued for 28 to 42 days. There should be a good clinical response in 3 to 4 days as evidenced by decrease, in both fever and tachycardia. Weekly blood cultures, using penicillinase (or para-aminobenzoic acid if sulfa is also being given) in the culture medium, should be done. If the organism is one which should be inhibited by penicillin but the clinical course indicates that satisfactory progress is not being made, then dosage of penicillin must be increased[13]. Sometimes, a higher blood level may be sustained by a slow continuous intravenous drip; or caronamide may be used to decrease the excretion of penicillin by the kidneys; or an appropriate sulfa drug may have to be given orally in addition to the penicillin. We have had a case of strep. viridans bacteremia, in a girl with patent ductus arteriosus (producing showers of pulmonary emboli), in whom the daily dose of penicillin had to be increased to 10,000,000 units. We feel that the very minimum in subacute bacterial endocarditis is 500,000 units per day.

EVERY SIX HOURS

Recently, we have been using fortified procaine penicillin in appropriate dosage and giving it every 6 hours around the clock. Depot type of penicillin therapy has a definite place, and satisfactory sustained blood levels may be obtained with it. This reduces

Table 4. — Choice of Antibiotics in Certain Clinical Conditions

1. Pneumonias (Remember that shifts in bacterial flora occur in debilitated patients)	Penicillin	Streptomycin	Aureomycin	Chloramphenicol
a. Pneumococcic	A (S.D.)	C	B	C?
b. Strep. beta hemolytic	A (S.D.)	C	B	0
c. Staphylococcic	A+	0	B+	0
d. Friedlander's (K. pneumoniae)	0	A (+S.M. or S.D.)	0	B?
e. H. Influenzae	0	B (+S.M. S.D.)	A (+S.M. S.D.)	--
f. Tularemic	0	B	A	A?
g. Atypical Types				
(1) Virus	0	0	A	A
(2) Rickettsiae - Q fever	0	0	A	A
h. Tbc.	0	A (+PAS)	0	0

Legend: A, first choice; B, second choice; C, third choice; D, fourth choice; 0, of no value; (--), value is unknown; (?), indicates choice is questionable because cases reported are too few; (+), indicates combined therapy necessary. S.D. = sulfadiazine. S.M. = sulfamerazine. PAS = para-aminosalicylic acid. S.A. = sulfacetimide. S.T. = sulfathalidine.

the number of injections which is so important to the patient. However, if one has to give 10,000,000 units a day, the intramuscular route can hardly be used because of the pain resulting from the large volume of each injection and the frequency of injections. Under such circumstances, the continuous intravenous drip is better. We are dwelling upon penicillin in SBE because it is a condition which is so commonly treated and which I believe is usually curative. Also, proper treatment of this condition illustrates well the use of antibiotics in general.

As to giving penicillin orally, one should remember that it is destroyed by the gastric juice. It is, however, absorbed into the blood very rapidly and is all excreted in the urine in 6 hours. It is necessary to give five times the parenteral dose when giving it orally[10]. The oral use of penicillin, as a prophylactic measure in cases of rheumatic fever, is not recommended. It has no value in the prevention of the common cold[21].

Table 5. — Choice of Antibiotics in Certain Clinical Conditions

2. Sub-acute Bacterial Endocarditis	Penicillin	Streptomycin	Aureomycin	Chloramphenicol
a. Alpha hemoly. strep (viridans)	A	C?	B	0
b. Beta hemoly. strep	A+ (S.D.)	C?	B	0
c. Streptococcus fecalis	B+	C?	A+	0
d. Staphylococcic	A+	0	B+	0
e. Micrococcus (Staph) Tetragenus 45	A+	B+	--	--
f. Gram-Negative Bacilli	0	A+	A+	A+
3. Urinary Tract infections (Remember surgery often more important)				
a. E. coli	0	B (S.A or S.D)	A	A
b. Aerobacter aerogenes (B. lactis aerogenes)	0	B (S.A or S.D)	A	A
c. Proteus vulgaris	0	B (S.A or S.D)	0	A
d. Pseudomonas aeruginosa (B. pyocyaneus)	0	A	0	A or B
e. Streptococcus fecalis	B	0	A	0
f. Staphylococcus	A	0	B	0

Legend: A, first choice; B, second choice; C, third choice; D, fourth choice; 0, of no value; (--), value is unknown; (?), indicates choice is questionable because cases reported are too few; (+), indicates combined therapy necessary. S.D. = sulfadiazine. S.M. = sulfamerazine. PAS = para-aminosalicylic acid. S.A. = sulfacetimide. S.T. = sulfathalidine.

STREPTOMYCIN

Streptomycin inhibits many gram-negative organisms but is a drug having severe toxic reactions most important of which is damage to the nuclei of the eighth nerve. Fortunately, deafness and vertigo do not usually develop with the shorter courses of treatment, but these symptoms may appear the first week. Since signs of eighth nerve damage may persist for months, the patient receiving streptomycin should be checked daily for development of vertigo or deafness. The physician must decide whether it is worth while to continue treatment in the face of developing eighth nerve damage. In the tuberculous, who receive long courses of streptomycin, vertigo in some degree occurs in 96% (usually about the fourth week of therapy)[12]. Nausea, vomiting, dysuria, local irritation and eosinophilia are other side effects.

Streptomycin cannot take the place of standard procedures in treating pulmonary tuberculosis. Bed rest, pneumothorax, pneumonolysis, thoracoplasty and other surgical procedures are as important as ever. Streptomycin is an adjunct to present-day therapy and only inhibits the progression of the disease. It is useful in an old case that suddenly shows a small exudative flare-up; or in a miliary dissemination; or in preparation for thoracic surgery with subsequent post-operative therapy. We do not have the time

here to adequately discuss the use of streptomycin in pulmonary tuberculosis. The tubercle bacillus rapidly develops a resistance to streptomycin. In order to prevent the development of a resistant strain, we customarily limit the period of administration of streptomycin, giving 0.5 Gm. twice daily intramuscularly for only 28 days with or without paraminosalicylic acid (PAS) 12. Gm. daily orally. A rest period of 28 days (during which PAS may be given) is then allowed, after which the course of streptomycin is repeated for 28 days to be followed by another rest period, alternating so long as indicated[16]. Streptomycin as the sulfate or calcium chloride complex is more efficacious than the dihydrostreptomycin, although the latter does less eighth nerve damage. In tuberculous meningitis, the daily dose is increased to 2.0 Gm. and treatment is often continuous for 60 to 120 days. In this serious infection, we do not employ streptomycin intrathecally. The antibiotic is extremely irritating in the spinal canal and results are no better than with intramuscular administration alone[16].

AUREOMYCIN AND CHLORAMPHENICOL

Aureomycin is derived from a fungus or "ultramold", a new species of the Actinomycetes called Streptomyces aureofaciens[17]. Chloramphenicol or Chloromycetin^{R} is derived from Streptomyces venezualae[18]. Neither of these antibiotics has had any serious toxic or sensitivity reaction reported to date. Nausea, vomiting and looseness of the bowels may occur but in our experience, this happens mainly with aureomycin. This is controlled by giving aluminum hydroxide with each dose of aureomycin. We have also noted an excoriation of the perineum in two patients having diarrhea while taking aureomycin; one of these had some dysuria. Also noted has been euphoria and agitation in two patients taking aureomycin. These and similar reactions were noted by Long et al[3]. With chloramphenicol given to two patients with fever, myalgia and headache of undetermined origin (one of whom had a pleocytosis of the spinal fluid), an interesting side reaction was noted. Both patients developed in 3 days a cheilosis and a sore desquamating tongue (after taking 500. mg. every 3 hours for 48 hours). The oral lesions in both patients cleared promptly with vitamin B complex orally (Surbex^{R}, 2 tablets four times a day). One of these patients also showed a depression of the blood prothrombin which responded to synthetic vitamin K orally. We have assumed that chloramphenicol produces avitaminosis occasionally by its action on the intestinal tract. In view of the fact that the antibiotic inhibits the organisms composing the intestinal flora, it is not surprising that the manufacturers have recommended it for sterilizing the intestinal tract preoperatively.

GIVEN PARENTERALLY

Aureomycin may be given parenterally in severely ill patients. Intramuscular administration is quite painful, probably because of the acidity of the solution which cannot be altered if the drug is to retain its potency[19]. It is best given intravenously if the parenteral route is necessary. The Lederle Laboratories supply it in a 100. mg. vial to be dissolved in 10 cc. of L(-) leucine solution 2.6%. This is injected slowly (5. min.) and is given every 6 hours in adults. The per Kg. dosage is 15. mg. for 24 hours.

Chloramphenicol is administered only orally. Blood assay and sensitivity tests are not practical for ordinary clinical use for either chloramphenicol or aureomycin[3,20]. Simply increase the dosage, if the patient is not responding, when infected with an organism shown to be susceptible to the antibiotic.

It is advisable to begin oral treatment with a priming dose of both aureomycin and chloramphenicol, in order to obtain the desired level in the body fluids. For chloramphenicol, the priming dose is 60. mg. per Kg. in both children and adults; for aureomycin, it is 10. to 20. mg. per Kg. in children depending upon the severity of the infection, while it is 10. to 15. mg. per Kg. in adults[3]. The peak blood level is reached in about 2 hours and has decreased to a low level in 8 hours. Maintenance dosage should therefore be given every 4 hours and preferably every 3 hours in severe infections. It has been noted that if intestinal symptoms occur, more frequent but smaller dosage is desirable. The maintenance dose of chloramphenicol is usually 30 to 60 mg. per Kg. but may be increased from 60 to 120 mg. per Kg. in severe infections. This applies to both children and adults[3]. The maintenance dose of aureomycin varies in children from 25 to 50 mg. per Kg. in moderate infections to 100 mg. per Kg. in severe infections; in adults, the maintenance dose being 30. mg. per Kg. in moderate infections to 50. to 60 mg. per Kg. in severe infections[3].

Table 6. — Choice of Antibiotics in Certain Clinical Conditions

	Penicillin	Streptomycin	Aureomycin	Chloramphenicol
4. Preoperative & Postoperative in Intestinal Surgery	0	B	A?	A (S.T.)
5. Preoperative & Postoperative in Pulmonary Surgery	A	A	--	--
6. Ulcerative Colitis (Idiopathic)	0	0	0	?
7. Otitis Media	A	C (sulfa)	B	--
8. Poliomyelitis	0	0	0	--
9. Guillain-Barré's Syndrome	0	0	0	--
10. Hepatitis	0	0	0	--
11. Infectious Mononucleosis	0	0	0 Borate 0.5% sol. locally	--
12. Ocular Infections				
a. Staphylococcus, Pneumococcus, H. Influenzae, Morax-Axenfeld	Not desirable		A	--
b. Inclusion conjunctivitis, trachoma, other viruses	locally		A	--
c. Herpetic conjunctivitis			A?	--
d. Epidemic keratoconjunctivitis			A	--

Legend: A, first choice; B, second choice; C, third choice; D, fourth choice; 0, of no value; (--), value is unknown; (?), indicates choice is questionable because cases reported are too few; (+), indicates combined therapy necessary. S.D. = sulfadiazine. S.M. = sulfamerazine. PAS = paraaminosalicylic acid. S.A. = sulfacetimide. S.T. = sulfathalidine.

MAINTENANCE DOSE

The maintenance dose is continued until the patient is clinically improved and the temperature has been normal for 48 hours. If the infection is due to Rickettsiae, the drug may then be withdrawn but in the case of viral and bacterial infections, a relapse is likely to occur if the drug is withdrawn and dosage should be continued for about 7 days, although the amount given may be halved at this time. In the case of severe infections such as a septicemia or meningitis, the maintenance dose should be continued until the patient is clinically well[3]. Relapses in typhoid fever are common[22] and this disease should be treated for more than eight days if relapse is to be avoided. Eleven to fourteen days is probably a sufficient course. The relapses respond satisfactorily when the drug is resumed, but in view of the possibility of initiating a carrier-state (which does **not** respond to antibiotic therapy), adequate treatment is the safer course. Brucellosis is another disease which responds in the

acute stage to both of these antibiotics but which is also prone to relapse and become chronic. Treatment then becomes difficult. It has been recommended that the "block method" of therapy be tried in diseases tending to relapse, i.e. 10 to 14 days of intensive treatment followed by a rest period of 10 days before again giving 10 to 14 days of treatment.

ANTIBIOTIC OF CHOICE

Space is not available here to discuss the antibiotic of choice in the several diseases or specific infections. This will be shown by the table. If there is more than one first choice, the clinician will be guided by the patient's reaction to the drug, its ease of administration, or other factors known only to the physician or patient. Combined use of these agents is often desirable. The entire bibliography has served as a guide in preparing this table. The literature on this subject is very extensive. Therefore, articles which simply substantiate findings already noted have been omitted from the bibliography or are included in the bibliographies of the articles listed. Changes are occurring daily and we are simply attempting to assess the literature to date.

The tables indicate the relative value of penicillin, streptomycin, aureomycin and chloramphenicol in various infections. In addition, the sulfa drugs are listed parenthetically when it is felt that they have a definite place in treating that specific infection. If combined treatment with more than one antibiotic, or antibiotic plus sulfa or other drug is advisable, then that fact is also noted. Frequently, one may employ a sulfa drug alone and the sulfa drug is then simply listed beneath the antibiotic score (vid. sulfa in Friedlanders pneumonia where the patient is not severely infected or in urinary tract infections which often respond to sulfa alone).

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THE RED CROSS NATIONAL BLOOD PROGRAM

Reasons For A Nation-Wide Blood Program

1. There is a need for human blood in every community of the county.
2. There was no national agency or organization to supply needed human whole blood and products to physicians and hospitals for civilian patients.
3. There was no provision for the availability and distribution of blood on a nation-wide scale, wherever disaster or other emergency occurs.
4. A nation-wide program makes research possible on a national scale with results available to the entire nation.
5. A nation-wide program provides the advice and guidance of leading scientists to the entire country.
6. A nation-wide program provides uniform technical standards throughout the country.
7. Cost of starting and maintaining a blood program is far beyond the reach of most communities.
8. Purchasing equipment on a large scale reduces the cost of the equipment for each center.
9. More effective education of the people can be done on a nation-wide scale.
10. Films, exhibits, posters, and other educational media can be provided more efficiently through a national program at less cost.

PURPOSE

To supply human whole blood and blood derivatives without charge to physicians for all who need them.

SUPPLY

1. Surveys showed that of the 6,000 hospitals in the country, only one out of every five had a private blood bank. These were unable to supply the total amount of blood needed for their own hospitals.
2. Commercial blood banks in some cities were unable to supply the amount of human blood needed in the hospitals of the city. When blood was available, the cost per pint (often as much as $85 per pint) was usually beyond the financial means of a majority of people.

ESTIMATED NEEDS

A total of 3,700,000 pints of blood annually for civilian, veteran, Army and Navy and U. S. Public Health hospitals. (Based on five pints per year per general hospital bed, and 1 pint per year for each neuropsychiatric or tuberculosis hospital bed.)

COST

No charge will ever be made by Red Cross for the blood itself.

APPROVAL BY MEDICAL PROFESSION

The American Red Cross National Blood Program was approved in principle by the following organizations, among others:

American Medical Association
American Hospital Association
Catholic Hospital Association
American Public Health Association
Association of State Territorial Health Officers
American Dental Association
United States Public Health Service
Veterans Administration
Army
Navy

Red Cross chapter representatives in 18 regional meetings. Authorized June 1947 by Board of Governors of the American National Red Cross.

HEADING THE NATIONAL BLOOD PROGRAM

Director, National Blood Program

Adm. Ross T. McIntire, formerly Surgeon General of the Navy and White House physician.

Medical Director, National Blood Program

Dr. Louis K. Diamond, Director of Boston Children's Hospital Blood Bank and Research Laboratory; director of Blood Grouping Laboratory of Boston; author of "Atlas of the Blood of Children."

Assistant Director, National Blood Program

Gen. Harry F. Thompson (U.S.A. Retired), formerly administrator of Red Cross Service to Veterans.

DEVELOPMENT OF THE NATION-WIDE BLOOD PROGRAM

Development will be gradual and painstaking, in close cooperation with local medical societies.

No local program can or will be instituted by Red Cross without the prior approval of local medical societies, hospital organizations, health department officials.

There are FOUR phases in the program: (1) collecting blood (2) processing blood for use as whole blood and blood derivatives, including packaging and storage (3) distribution of both the whole blood and blood products for use by physicians and hospitals for any patients needing them (4) continuous research and investigation of the quality of the products, their safety, and important uses.

EXISTING FACILITIES

The National Blood Program of Red Cross does not plan to establish centers in those communities where needs for blood are being met by existing facilities.

STANDARDS

1. Each center has a Medical Advisory Committee, appointed by the **local medical society.**
2. Each center has a physician medical technical director, who is nominated by the **local medical society,** and approved by the Red Cross chapter board and the administrator, National Blood Program.
3. Each center is under the direct supervision of the medical technical director assisted by registered nurses and laboratory technicians.
4. A physician is always in the center while blood is being taken from donors.
5. Technical procedures have been approved by the National Institute of Health.
6. As better techniques and procedures are developed and **proved,** they will be adopted, utilizing the latest and highest standards throughout the country at all times.

PRODUCTS

Whole blood. "Whole blood" is blood only. Technically "preserved whole blood" or "modified whole blood" is the term applied to blood with a preservative or any other substance added; however, the term "whole blood" is generally used to denote blood plus preservative. The preservative is usually a solution containing citric acid, sodium citrate, and dextrose—called ACD solution. Donated blood must be typed, and the donor's and recipient's bloods must be cross-matched for compatibility before transfusions are made. Other tests are also necessary. "Whole blood" must be kept under refrigeration from 4 to 6 degrees centigrade, under which conditions it may be kept about 21 days. Used whenever large amounts of blood have been lost as a result of accident, injury, childbirth, or in certain diseases which result in blood cell depletion or injury. Chief of these are infections, hemorrhagic diseases, and chronic anemias.

Plasma. The liquid portion of blood after removal of cells. May be stored in liquid, frozen, or dried forms. Liquid and dried forms are most frequently

used. Need not be typed and may be stored much longer, which permits its use as a substitute for whole blood in emergency cases such as accidents, and in remote areas where facilities for administering whole blood are not available.

Serum Albumin. One of the fractions made from plasma. Used in the treatment of certain kidney diseases and for the emergency replacement of lost blood volume.

Immune Serum Globulin. Used for the modification or prevention of measles.

Antihemophilic Globulin. Used to control bleeding when it is the result of hemophilia (a chronic condition in which blood will not clot).

Fibrinogen and Thrombin. Two plasma proteins which when combined form an artificial clot from which **fibrin film** and **fibrin foam** are made. **Fibrin film** is a cellophanelike sheet used to repair tissues in brain and nerve surgery. **Fibrin foam** is a spongelike product used to stop bleeding from surgical or accidental wounds.

RESEARCH

1. Continuous research under the guidance of Blood and Blood Derivaties Committee of the Red Cross Advisory Board on Health Services.

2. This group is composed of topmost authorities on blood including, among others:

Charles A. Janeway, M.D., Chairman

Elmer L. DeGowin, M.D.	Frank W. Hartman, M.D.
Charles A. Doan, M.D.	Robert F. Loeb, M.D.
Everett I. Evans, M.D.	Isadore S. Ravdin, M.D.

3. Through this committee, clinical research to develop new products and increase the uses of existing products will continue.

DONOR REQUIREMENTS

All donors are accepted on the basis that they are capable of safely giving 500 cc of blood, equivalent to one pint.

AGE

1. Men and women, 21-59 years of age, inclusive.

2. Minors accepted only with written permission from parents or legal guardian. (Release form for this purpose will be used and properly witnessed. Some state laws differ as to what constitutes a minor, married or single. Individual centers conform to the customary practice of local hospitals.)

3. Married minors, economically independent, living apart from their parents, may be accepted without permission of parents or legal guardian. If possible, written permission of the mate should be obtained.

4. Minors belonging to armed services of the United States and Allied Nations, and members of the Merchant Marines, accepted without written parental permission, excepting members of reserve units.

5. A donor may give blood at 8-to-10-week intervals without harm. No donor may give blood more than five times in any 12-month period.

6. Medical history will be taken by a physician or registered nurse under the supervision of a physician.

7. No donor will be accepted if the physician, who is in attendance at all times, questions the advisability of a donation for the protection of the donor.

8. Pre-donation diet requirements will be under the supervision of the center's medical technical director.

FINANCING

The programs will be financed from funds raised during the Red Cross annual fund campaign.

CHAPTER PARTICIPATION

1. Chapter blood program committee to study program, develop plans, in cooperation with local medical and health authorities, and represent the chapter in its participation.

2. Secure written endorsement of the program by local medical society, public health officer, and hospital organization before any chapter is authorized to participate in the National Blood Program.

3. Furnish volunteers.

4. Recruit donors.

GENERAL BACKGROUND INFORMATION

1. Scientific research, accelerated by the war emergency, brought many new discoveries to aid medical science, among them the method of preserving whole blood up to 21 days.

2. The research and development of blood fraction products from the proteins of human plasma — a direct outgrowth of the war — have introduced a revolutionary epoch of great significance to peacetime medical practice.

3. Out of the urgency of war — and the knowledge gained from processing civilian donations for military use — these essential blood fraction products have been made available for peacetime therapy.

4. Although blood fraction products are still on the threshold of the vast possibilities of clinical investigation, their outstanding contributions to surgical techniques, preventive medicine, and therapeutic progress already have been well established.

5. As medical scientists discover new uses for blood as a therapeutic product, greater numbers of donors are needed.

6. One recipient of blood may require the donations of several people with each donor able to give only one pint at a time. For instance, only about one out of 200 donors has type AB negative. This is a "rare type" — (without sufficient donors all types are rare) — but one recipient may require a center's entire supply of AB negative which can only be replaced at the slow rate of one pint for each 200 donors.

7. The average healthy person weighing 110 pounds has about 12 to 14 pints of blood.

8. The system begins to replace blood immediately after donation and within from 48 to 72 hours after donation, the **volume** is replaced.

9. Blood is a **living** fluid. It cannot be manufactured. Only from healthy **people** can this vital substance be obtained.

10. The American Red Cross is regarded as the most appropriate agency to operate a nation-wide blood program (1) because of its World War II achievement in collecting more than 13,000,000 pints of blood for our fighting men, and (2) because it is already organized in every county of every state of the nation.

11. The nation-wide blood donation program during World War II, which made possible the processing of plasma supplies for the armed forces, has been one of the greatest cooperative efforts of scientist and layman — and the resulting benefits to the national health of this country in peacetime are inestimable.

12. The American Red Cross World War II Civilian Blood Program was responsible **only** for donor recruitment and blood collection. Centers were established in 35 cities with mobile units operating in their outlying areas. All human blood collected was turned over to the Army and Navy.

13. A total of 13,326,242 pints of blood was collected during operation of the wartime program. Of this amount 374,441 pints of whole blood were used by military medical men on battlefronts following

scientific discovery of means for preserving whole blood up to 21 days.

14. The wartime program was discontinued in September 1945. Surplus plasma returned to the Red Cross by the armed forces, and derivatives made from it, are available through state health departments.

STATISTICS

1. Records show that 97.3 per cent of World War II wounded survived. Military medical authorities believe the availability in quantity in time of whole blood and plasma was a major factor in this low mortality figure.

2. War wounded totaled 651,911; during the same period 36,000,000 civilians suffered accidental injury. Nineteen thousand amputations were performed on members of the armed forces during World War II; during the same period more than six times as many civilians underwent amputations. Between Pearl Harbor and VJ-Day more civilians died from accidental causes in this country than were lost in the war.

3. Every 2 seconds someone is injured somewhere in this country. Ninety per cent (90%) of these serious accident cases need blood at once.

4. In 1948, according to National Safety Council reports, 1 in every 14 persons in the nation was injured. Disabling injuries totaled over 10,000,000; an increase over the previous year.

5. By the end of June 1949, 29 Red Cross regional blood centers were established in the nation. These are located at: Rochester, New York; Washington, D. C.; Atlanta, Georgia; St. Louis, Missouri; Springfield, Missouri; Omaha, Nebraska; Tucson, Arizona; Los Angeles, California; San Jose, California; Stockton, California; Wichita, Kansas; Charlotte, North Carolina; Detroit, Michigan; Lansing, Michigan; Great Falls, Montana; Yakima, Washington; Columbus, Ohio; St. Paul, Minnesota; Nashville, Tennessee; Portland, Oregon; Boise, Idaho; Louisville, Kentucky; Philadelphia, Pennsylvania; Syracuse, New York; Ashville, North Carolina; Johnstown, Pennsylvania; Mobile, Alabama; Norfolk, Virginia; and Savannah, Georgia. In addition a state-wide program in Massachusetts was operating.

6. During the fiscal year 1947-48 alone, Red Cross distributed without charge to physicians and hospitals through state health departments, more than 600,000 units of immune serum globulin used in the prevention or modification of measles. Since the commercial cost of this amount of measles serum would be nearly $3,800,000, this represents a very definite savings to the American people.

7. As of June 1948, there were more than 50 blood fractions as yet unexplored. There is no backlog of either whole blood or plasma for continued research. 2,500,000 units of plasma declared surplus at the war's end are nearly exhausted. It is urgent that some blood for research be made available.

8. There are FOUR phases in the National Blood Program: (1) collecting blood (2) processing blood for use as whole blood and blood derivatives, including packing and storage (3) distribution of both the whole blood and blood products for use by physicians and hospitals for any patients needing them (4) continuous research and investigation of the quality of the products, their safety, and important uses.

9. Reports show that more than 80,000 persons died from the atom bomb dropped on Hiroshima. Medical authorities estimate that 20,000 would have survived if adequate amounts of the whole blood had been available.

10. The presently estimated requirement for a single atom bomb detonated in the manner employed at Hiroshima is 150,000 to 200,000 units of whole blood. This is based on from one to five transfusions for each of the 80,000 casualties.

CIRCULATORY AND RENAL EFFECTS OF AMINOPHYLLINE IN CONGESTIVE HEART FAILURE

"The effects of aminophylline on patients with congestive heart failure have been studied by the simultaneous observation of the cardiac output, right atrial, pulmonary arterial and systemic arterial pressures, glomerular filtration rate, renal plasma flow and sodium excretion data. These patients were suffering from valvular heart disease and showed no evidence of primary renal disease. Aminophylline injected intravenously in 0.72 gm. doses has been found to produce a marked increase in cardiac output, accompanied by a decrease in peripheral resistance, which is of greater degree in the pulmonary than in the systemic circulation. . . . .

"Increased renal plasma flow, filtration rate and an increased rejection of sodium by the tubules also took place. These renal changes are minor in degree, however, and not of an order comparable to the modification in cardiac output (which at times is nearly tripled)." — James, D. F., Turner, H., and Merrill, A. J., Am. J. Med. 5;4:619 (Oct.), 1948.

NEW TEST FOR HYPERTENSION DUE TO CIRCULATING EPINEPHRINE

"The only clinically significant hypertension due to circulating epinephrine of which we know is associated with pheochromocytoma. This is a tumor consisting of chromaffin tissue, producing epinephrine, and arising either in the adrenal medulla or in one of the many, widespread areas where chromaffin tissue is found during early life.

"If hypertension is due to circulating epinephrine, it will be abolished or significantly decreased by the intravenous administration of adrenolytic compounds. If the hypertension is due to any other cause, it will persist.

". . . in tolerable doses, the benzodioxanes . . . are adrenolytic only . . . ."

"The dosage finally selected approximated 0.25 mg. of 933F (piperidylmethyl benzodioxane) per kilogram for adults of average weight. . . .

"An impressive drop in blood pressure followed injection of benzodioxane when large amounts of circulating epinephrine were present. When removal of the tumor had abolished this excess of epinephrine, intravenous injection of these compounds no longer depressed the blood pressure." — Goldenberg, M., Snyder, C. H., and Aranow, Jr., H., **J. A. M. A.** 135:971, 1947.

CASTRATION FOR CANCER OF THE MALE BREAST

Favorable responses in carcinoma of the male breast following castration have been reported. Treves and associates have reported seven cases with a good response in 6. Strangely enough, in contrast to women, the men who showed the best results after castration were 63 years of age or older. A good response to orchiectomy has included partial regression of the primary tumor and osseous metastases. Treves believes that the effects of castration in carcinoma of the male breast may parallel the brilliant results obtained in carcinoma of the prostate following similar treatment.

Striking improvement in the local appearance in a case of cancer of the male breast twenty-two months after castration is shown by Nathanson. Farrow cites the case of a man in whom pronounced improvement in the primary tumor and increased density of skeletal metastases followed orchiectomy during a period of four months of postoperative observation.

Linguets should not be confused with ordinary tablets, which have been "proved relatively ineffective" by sublingual administration. ——

Escamilla, R. F. and Gordan, G. S.: Bull. Univ. California Med. Center, November 1949.



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and EL PASO COUNTY MEDICAL SOCIETY

Vol. XXXI MARCH, 1950 Number 3

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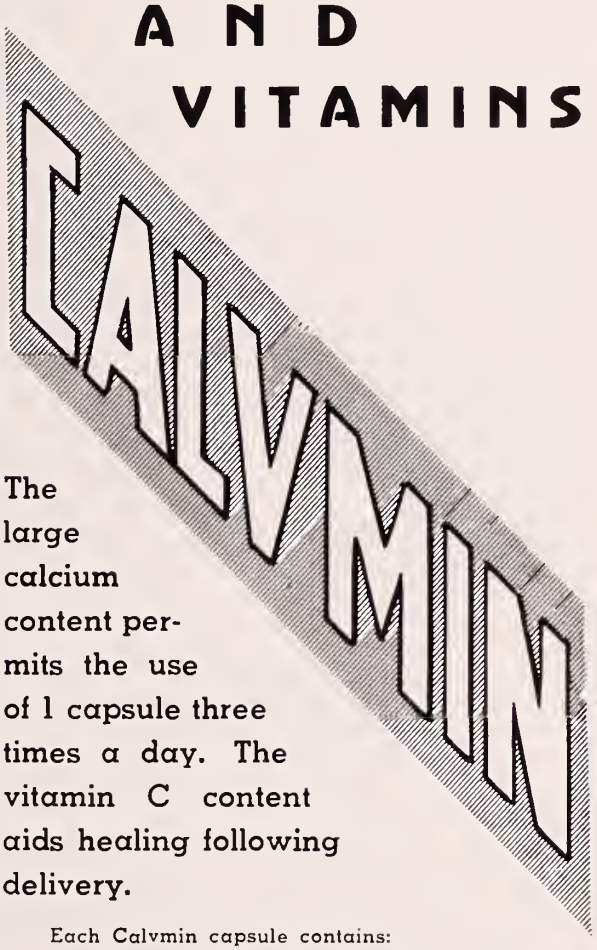
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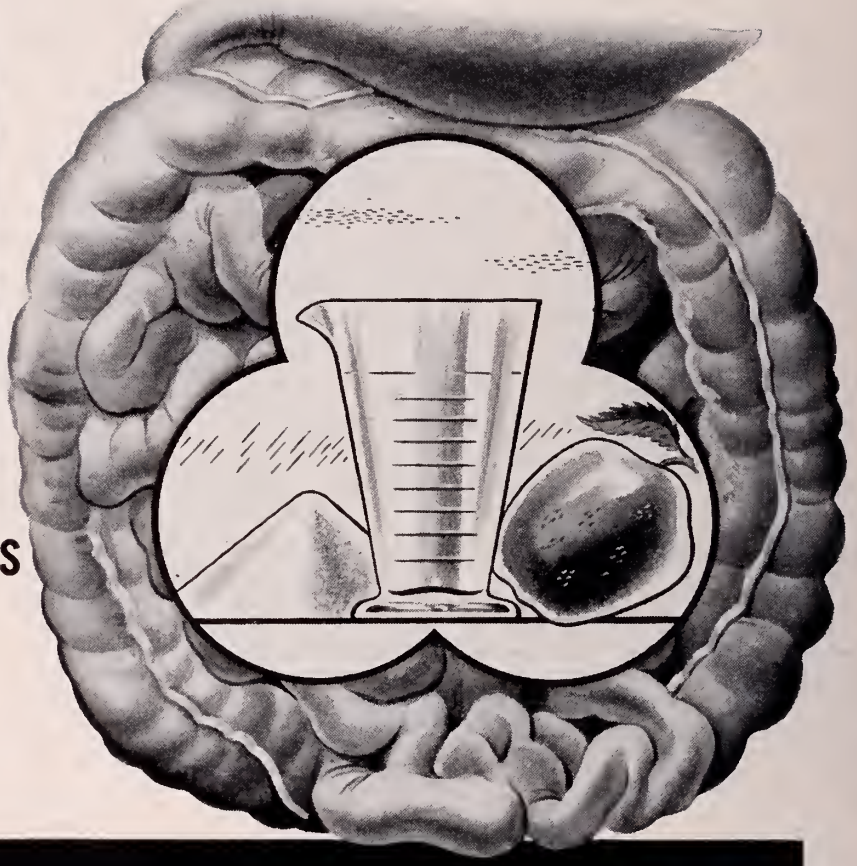
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(2) Heineken, T. S., and Seneca, H.: Rev. Gastroenterol. *15*:611, 1948.

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*Schwartz, E.: Ann. Allergy 7:770 (Nov.-Dec.) 1949

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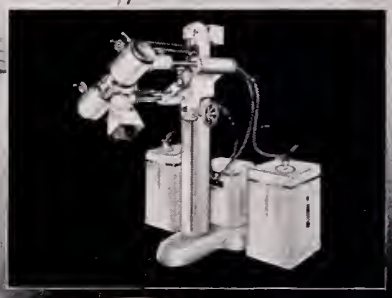
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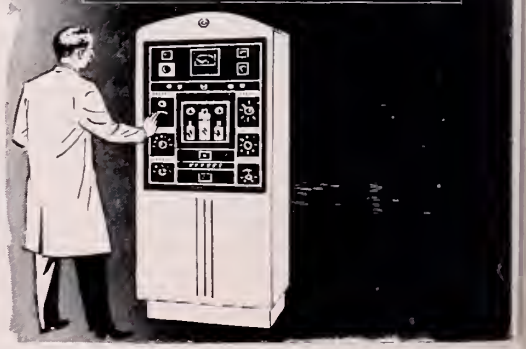
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*Fry, C. O.: J. Am. M. Women's A. 4:51 (Feb.) 1949

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Four potencies of "Premarin" permit flexibility of dosage: 2.5 mg., 1.25 mg., 0.625 mg., and 0.3 mg. tablets; also in liquid form, 0.625 mg. in each 4 cc. (1 teaspoonful).

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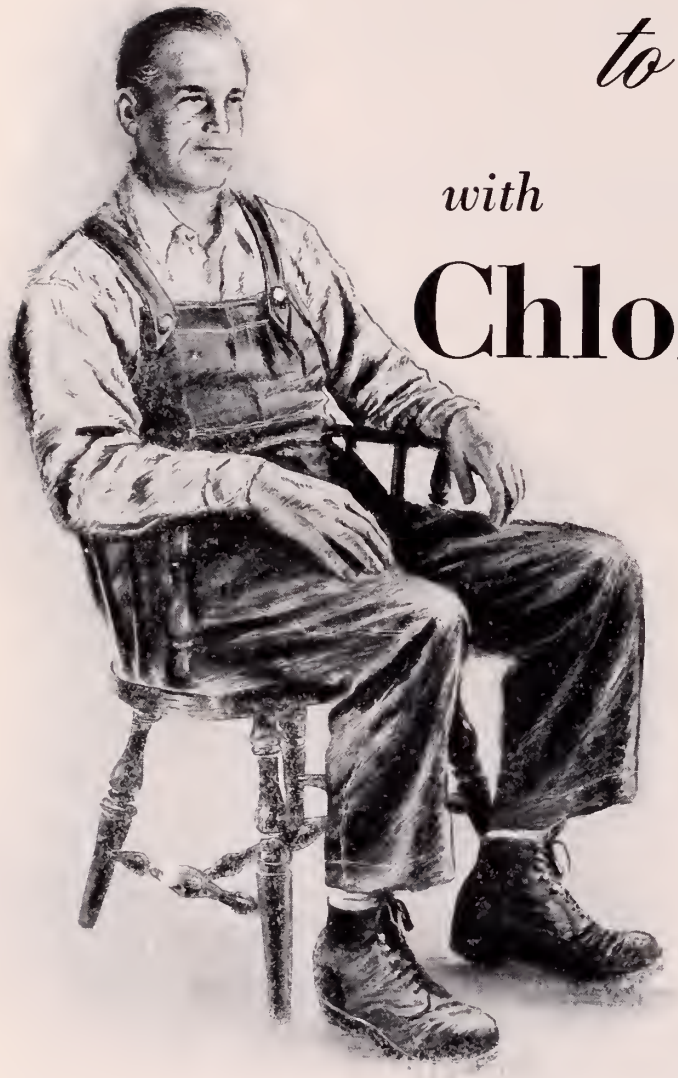
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The cost of medication, of course, is but one item in the total cost of illness, the greatest expense stemming from the length of incapacitation and consequent loss of working time. One distinct advantage of CHLOROMYCETIN therapy is its fundamental economy—quick clinical response, reduced morbidity, shortened convalescence and earlier return of the patient to his job.

Particularly dramatic results are now obtained in a disease such as typhoid fever, where the illness formerly ran its course for several weeks because of the lack of specific therapy. The lengthy hospitalization, special nursing care, the supportive measures during this prolonged period—all have contributed to increased costs. However, CHLOROMYCETIN changes this: the duration of illness is greatly reduced, defervescence occurring within 2 to 3 days after treatment is begun. With control of the infection, general improvement is manifest and recovery is rapid.

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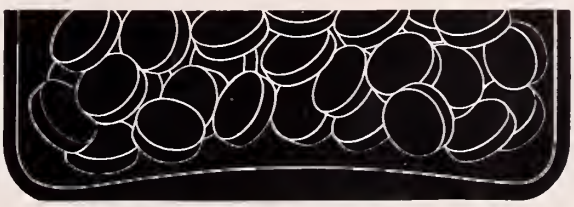
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Carmethose-Trasentine is a logical combination of a new *antacid* and an effective *antispasmodic* to control gastric discomfort.

Controls hyperacidity . . . This combination lowers gastric acidity and forms a protective coating which has been observed in the stomach for as long as three hours.

Controls spasm . . . Carmethose-Trasentine relieves gastric pain also by relaxing smooth muscle spasm. The anesthetic effect of Trasentine further controls gastric irritability. Carmethose-Trasentine is non-constipating, palatable and eliminates acid-rebound.



Issued: Carmethose-Trasentine Tablets: sodium carboxymethylcellulose, 225 mg.; magnesium oxide, 75 mg.; Trasentine, 25 mg. Bottles of 100.

Carmethose without Trasentine is also available for use in cases where the antispasmodic component is considered unnecessary. Available as Tablets, each containing sodium carboxymethylcellulose 225 mg., with magnesium oxide 75 mg., and as Liquid, a 5% solution of carboxymethylcellulose.

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The administration of Protamine Zinc Insulin is a cornerstone in the treatment of practically all diabetics because of its slow but prolonged effect. Unmodified Insulin is employed either as a supplement or as an alternative whenever a quick and short but powerful action is required. In emergencies and during diabetic complications, the rapidly acting preparation is especially indicated.

Mixtures of the two preparations provide an intermediate "adjustable" effect. No single Insulin preparation is indicated for all diabetics. The treatment of each diabetic is an individual problem—as individual as a fingerprint.

Complete literature and diet forms for the treatment of diabetes are available from your Lilly Medical Service Representative or will be forwarded to members of the medical profession upon request.

for rapid effect

Iletin (Insulin, Lilly), U-40 and U-80, containing 40 and 80 units per cc. respectively.

Iletin (Insulin, Lilly) made from zinc-Insulin crystals, U-40 and U-80, containing 40 and 80 units per cc. respectively.

for prolonged effect

Protamine, Zinc & Iletin (Insulin, Lilly)—Protamine Zinc Insulin, Lilly—in vials containing 400 and 800 units, labeled 40 and 80 units per cc. respectively.

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Suitable mixtures of Iletin (Insulin, Lilly) and Protamine, Zinc & Iletin (Insulin, Lilly).

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BRITISH PHYSICIAN, LEADING SCIENTISTS AT NEW MEXICO MEDICAL SOCIETY MEETING

Las Cruces will be host to the medical profession of the Southwest for the annual meeting of the New Mexico Medical Society, May 4 — 6. The physicians of Las Cruces are sparing no effort to make this get-together enjoyable and profitable. It must be realized that there is a perfectly tremendous amount of hard and tedious labor involved in such a project. The number of physicians to do this work in Las Cruces is not large, and it is only through their ability to work together as a unit that they have been able to accomplish so much.

In the very near future Las Cruces will officially open its new hospital. It is fitting that the annual meeting be held in a city which has the progressive spirit to bring about the erection of the fine, modern institution which is a credit, not only to the medical profession of Las Cruces, but to every citizen of the city itself. To the physicians attending the convention an opportunity will be afforded them to inspect and to obtain first-hand knowledge of what a modern community hospital is like. From this first-hand information, it is hoped that throughout the Southwest many similar institutions will make their appearance in the near future.

SOUTHWEST GROWING

The Southwest is a growing section, and hospital facilities must, and will, accompany this growth. Las Cruces has made the start; the rest of us should attempt to emulate. The physicians responsible for the meeting have been very painstaking in their selection of speakers for the ensuing meeting, and have chosen physicians, who will present the subject matter in such a way that it will be of value to the physicians in the Southwest, whether they be in the general practice of medicine, or whether they are limited to a special field. The following program will be presented:

THE PROGRAM

Speakers and subjects scheduled for the meeting May 4 - 6 in Milton Hall of New Mexico Agricultural and Mechanical College in Las Cruces will be:

Dr. J. S. Speed, orthopedist, member of the Campbell Clinic, Memphis, Tenn.; (1) Treatment of Ruptured Intervertebral Discs; and (2) Surgical Treatment of Difficult Nonunions of Long Bones by Means of Bone Grafts.

Dr. Allen J. Enelow, member of the faculty of the Menninger School of Psychiatry and member of the psychiatric staff of Winter Veterans Administration Hospital, Topeka, Kansas; (1) Alcoholism: Problems of Treatment and Research; and (2) A Psychiatric Viewpoint in The Practice of Medicine.

Dr. Henry M. Winans, professor of medicine, Southwestern Medical Foundation, Dallas, Texas; (1) The Significance of Pain; and (2) Who Has Heart Disease?

Dr. Willard R. Cooke, professor of obstetrics and gynecology, University of Texas Medical School, Galveston, Texas; (1) Moot Issues in Gynecology; and (2) Dystocia.

Dr. Russell J. Blattner, pediatrician of Baylor University College of Medicine, Houston, Texas; (1) Diagnosis and Therapy of Virus Rickettsial Infections; and (2) Meningitis.

Dr. Nathan A. Womack, professor of surgery, University Hospitals, Iowa University, Iowa City, Iowa; (1) Benign Lesions of The Breast; and (2) Surgical Treatment of Peptic Ulceration.

In the same vigorous spirit, the local committee has obtained as a guest speaker, Dr. Ralph J. Gampell of San Francisco, Calif., a British physician, who served in India with the British Medical Corps in World War II. Dr. Gampell on his return to his private practice following the war became dismayed with the prospect of practicing medicine under literally government supervision. This young man had a wife and a small baby to support, solely by the practice of medicine, in a small town, 150 miles north of London. When he began to realize that, not only had the nationalization of British medicine forced him into a position where he could no longer do justice to his patients, but also that because of official red tape he had essentially no income for eight months, but had to pay his income tax just the same, he took a very firm and decided view of the whole matter.

LEAVES ENGLAND

He left his native land and came to the United States and filed immediately for his citizenship papers. Dr. Gampell has an extremely excellent sense of humor, and a very adequate command of the English language, and is a convincing speaker on the subject of socialized medicine. He is now interning at the St. Joseph's Hospital in San Francisco, and is interested in becoming a general practitioner in the rural areas. The Editor of SOUTHWESTERN MEDICINE has been given to understand that he is seriously considering entering the practice of medicine in a small city in Southern New Mexico. The medical profession of the Southwest will welcome this physician because he exemplifies the views of the vast majority of Southwestern physicians.

SOUTHWESTERN MEDICINE urges that every one of its readers make an earnest effort to attend the annual meeting of the New Mexico Medical Society at Las Cruces. The local physicians of Las Cruces are working vigorously, and their only recompense will be a large and enthusiastic attendance. This much is due them, and it is the duty of each and every practitioner of medicine in this area to co-operate with them and attend the meeting which will unify the medical profession as a whole in the Southwest. Such unification is the essence of success in the battle against socialism, not only of medicine, but the nation as a whole.

ANTISTINE APPROVED

The Council on Pharmacy and Chemistry of the American Medical Association has recently announced the acceptance of three forms of antistine. This antihistaminic has been found to be effective in the relief of allergic symptoms with relatively low side effects.

It is a valuable adjunct in allergic therapy since Friedlaender and Friedlaender reported that 90.2 per cent of their patients with vasomotor rhinitis received symptomatic relief when treated with antistine or pyribenzamine.

The forms of antistine accepted by the Council are tablets of 100 milligrams, ophthalmic solution 0.5 per cent and nasal solution 0.5 per cent.

De Rebus Medicis Et Politicis

BY ROBERT B. HOMAN, JR., M. D., EL PASO, TEXAS
MEMBER OF THE HOUSE OF DELEGATES OF THE AMERICAN MEDICAL ASSOCIATION

"CRADLE TO THE GRAVE"

Frank G. Dickinson, Ph. D., the distinguished economist, now with the Bureau of Medical Economic Research of the A. M. A., has written and spoken some very astute words which should be of interest to the medical profession and layman alike. Dr. Dickinson believes "that health progress is at once the measure and the core of social progress".

During the first half of the twentieth century America has enjoyed man's greatest half century but, said Dr. Dickinson, "We have also endured a social revolution more important than the fall of the Roman Empire, the Rennaissance, the French Revolution, or the Industrial Revolution. This latest social revolution lies in the fact that the distance from the cradle to the grave is much longer for the average man".

"In 1900 there was no sentiment for "cradle to grave" schemes. Most of us living in 1900 were close to the cradle. Most of the people living today are far from their cradle days. This social revolution is the basis for the sentiment for "cradle to grave" schemes. We are faced primarily with medical and health progress in half a century which has come so fast that we have difficulty digesting it into our social institutions and into our way of life."

PLACES BLAME

Dr. Dickinson thus puts the blame for the demand for social security, socialized medicine, and other social reforms on the great increase in the population in the older age groups. Some statistics to bear out this increase of older population are distinct evidence of our health progress since 1900. Here are four examples:

1. In 1900 about one-third of the people dying had lived 50 years. In 1949 about three-fourths of the deaths were among people 50 years old or older.

2. The older half of the people dying in 1900 had lived 30 years or more. The older half of the people dying in 1949 had lived 66 years or more. The median age at death has advanced about 36 years!

3. One thousand babies born in 1900 were destined to live 49,000 years. In 1949, the same number of new-born were destined to live 68,000 years.

4. Since 1900 the entire population of the U. S. has doubled (75 to 150 milion). In the same period the population age 65 and over has quadrupled (3 to 12 million).

It would appear that these statistics pose a problem to be answered by society and particularly by the medical profession — how to keep this group of elderly people not only alive but productive? Should a man automatically be retired at 65 years of age? If so, Heaven help us! Geriatrics seems to be becoming an attractive field!

Let's let Dr. Dickinson continue—"I think "cradle to grave" is a scheme whereby those close to the grave would fasten themselves on the pay-checks of those closer to the cradle, and ride piggy-back to the grave — — — I think we face a grave problem of social morality — — — What kind of a standard of social morality do you want in this country? That is the basic question — — — Many years ago when we became old enough to vote, we faced a world in which we knew that there was ahead of us a life-time of working, earning, and saving — — — For our children we have, I think, largely thoughtlessly — created a world in which about all they can look forward to is a life-time of working, earning, and **paying taxes.** That, I submit, is not a fair proposition. It is not reasonable — — — Do we want to press down upon our youth this crown of security thorns?"

The next few years are going to test the social morality of the American people. Shall we accept government paternalism with higher taxation, or shall we stay with free enterprise and individual freedom.

Herpes Zoster: Treatment With Chloramphenicol

"Four patients in the acute stage of herpes zoster were given chloramphenicol orally in doses of 250 mg every four hours for 24 doses. In every instance there was definite improvement after 24 hours and after 48 hours disappearance of the pain and marked regression of the skin lesions. All progressed rapidly to complete recovery without remission or residual neuritic pain. There was no evidence of intolerance to the drug."

"Two patients with severe postneuritic pains were given chloramphenicol in the same dose. No improvement resulted. Actual scarring and nerve damage, continued dependence on drugs for relief of pain and psychic and nutritional factors are so often complications in these patients that improvement was not expected."—Dawson, L.M., and Simon, H.E., *South. M.J.* 42:696, 1949.

Aureomycin Therapy In Human Brucellosis Due To Brucella Abortus

"Aureomycin is now known to be effective in the treatment of human brucellosis due to Brucella abortus and Brucella melitensis." [Diagnosis proved by culture of the organisms.]

"A daily dose of 2 gm of aureomycin administered over a period of ten days to two weeks was adequate for most patients."

"Aureomycin produces almost immediate improvement in the subjective well-being of the patient and a rapid fall in temperature. Its oral administration is easy and free from dangerous side effects. Hospitalization is not necessary. Treatment with streptomycin and sulfadiazine has not been consistently attended by rapid improvement in symptoms or fever, and the well known side actions may be serious."—Braude, A. I., Hall, W. H., and Spink, W. W., *JAMA* 141:831, 1949.

EL PASO CENTER FOR THE TREATMENT OF CEREBRAL PALSY

El Paso now has a center for the treatment of cerebral palsy or spastic paralysis. This center has been vitally needed for sometime, because during the war there was no treatment center available for this condition.

By the organization of the Texas Society for Crippled Children and the cooperation of the public



Miss Carme Philips, right, technician at El Paso Cerebral Palsy Center, gives one child conditioned reflex exercises, while a young mother, left, aids her daughter to learn to walk with the assistance of skis.

on buying Easter seals this center has been made possible. The Society provides a trained technician. The sale of the seals has provided the necessary funds, and thus the local citizens provide for the support. The National Organization of course, provides for the actual training program and has furnished the services of a well-trained technician.

There are many worthwhile spastic or cerebral palsy cases, who with proper training can be made to become self-sufficient. These patients not only require medical care but they require extensive technical training in order to learn to use their involved muscles.

The center provides for the training not only of the patients but also of the parents, so that the problem is understood better and the patient has a better chance of overcoming the handicap.

At the present time this center is located at the El Paso General Hospital on the second floor of the main building.

The patients can secure admission to this clinic independently of the hospital. They merely should report to the center, and arrangements will be made not only for treatment but also first for thorough diagnostic studies by a capable group of doctors, who volunteer their services.

This is a great aid in this area to patients so involved, and it is absolutely essential for the management of the cerebral spastic. The cerebral spastic case, for the benefit of the lay reader of this article, is one who cannot control the muscles properly. Most of these patients have a so-called scissors gait, that is they cannot uncross their legs. Their spastic muscles cause the legs to be overcrossed.

Operative care can eliminate the crossed over legs. It also can aid such other conditions as flexion contractures of the knees or bent knees. Many cases have feet which cannot be straightened up so as to allow the patient to walk on the floor and surgery or careful splinting under Orthopaedic care can take care of this. There are various other situations which can be corrected surgically.

By far, however, the most important thing in the management of these cases is careful daily training over a period of many years in order to aid the patient in gaining proper control over the muscles, so that useful acts may be performed with the extremities. This is all important and it is the purpose of the spastic training center to provide this careful training and supervise home care. In this way many of these patients can learn to walk and to use the arms in such a fashion that they will become useful and happy citizens rather than neglected dependents.



Miss Philips gives a young polio victim resistive exercises to help strengthen her leg muscles.

THE SURGICAL APPROACH TO THE HYPERTENSIVE PROBLEM

Physicians for many years have been confronted with the problem of hypertension. Tedious hours of research and study have not as yet afforded us the answer to this complex and intriguing phenomenon. Each year brings new hope to the unfortunate individuals who are afflicted with severe degrees of hypertension, only unfortunately to have these hopes blasted by study and clinical observation. Substances ranging from watermelon seeds to garlic have had their advocates, and have fallen by the wayside. As the physician delves further into the intricate problem, he becomes surer that scientific medicine has practically only scratched the surface.

Over a period of years various surgical approaches have by necessity entered into the therapy of this syndrome. Of these sympathectomy has stood the test of time better than any other type of surgical procedure. Unfortunately there exists in the minds, of clinicians, much confusion as to the results of sympathectomy. One may hear one clinician tell of good results and another clinician speak of rank failures.

This is due in most cases to the fact that over a period of years the extent of denerviation has been increased; and the extensive operation employed by the majority of surgeons interested in this field today by necessity is giving very much better results than the incomplete denerviations of previous years.

SELECTED CASES

Physicians interested in this approach to the problem of hypertension fully realize that this is not the answer to the treatment of this disease, but do feel that in carefully selected cases it has a definite indication and adequate results. The medical profession in general should take care not to condemn this procedure without acquainting themselves fully as to the modus operandi. Very recently a patient with rather severe hypertension was advised that perhaps sympathectomy might be indicated. Elsewhere he was told that sympathectomy had no place in the treatment of hypertension, and that it was a distinctly mutilating operation.

Such statements reflect only the gross ignorance of the physician, and take from the patient in certain selected cases their only hope of any relief from their hypertension state. Sympathectomy is not the answer to the question of hypertension; and it may be safely said that no matter how extensive it may be it will still not be the ultimate in the treatment of this condition. On the other hand, in well selected cases, it does relieve symptoms, and there are indications that it well may prolong life. For this reason serious consideration must be given this procedure by every practitioner of medicine who in his daily practice is dealing with this condition which we know so little about, and which we so inadequately treat.

SOUTHWESTERN MEDICINE is taking this opportunity of presenting to its readers two papers written by men from entirely different geographical locations. The patients concerned would be different, especially as regards the psychosomatic make-up, and their problems and daily routines would vary considerably. These patients have one common factor, hypertension. The results of both surgeons, working independently, curiously enough to a great degree are parallel. This alone must arouse great interest in the minds of students of medicine.

Relief From Pruritus Following Upon Administration of Adenylic Acid

"In all, 36 patients were treated with the sodium salt of adenosine-5-monophosphate, injected intramuscularly in a solution of 20 mg in 1 cc of water. Dosage of 20 mg hourly for 5 consecutive hours over a period of 3 days yielded fairly uniform results. . . . Approximately half of the patients responded to the therapy within 24 hours, the others in from 2 to 7 days."

"In 5 instances the pruritus was associated with diabetes, . . . 9 with Hodgkin's disease, one with carcinoma of the ovary, one with dermatitis due to hair-dye sensitivity, 18 were idiopathic, and 2 occurred post partum. In almost every instance the pruritus was severe (inducing in some of the sufferers talk of suicide) and had previously been subjected to numerous therapies: salves, injections, x-ray, ultra violet rays, etc. Distribution was general in 20 instances, limited to anus or genitalia in 12 instances, to the legs, feet and hands in 4 instances. Skin of many of the patients was excoriated, in some instances severely so."

"Results were negative for 6 patients and positive for 30. There were 9 cases of complete subsidence, 14 of marked improvement, 5 of moderate improvement, and 2 of mild improvement. Not enough time has yet elapsed to make possible the assembling of statistics as to how enduring these results may be. Five patients have remained free of recurrence or maintained the state of improvement from discontinuance of therapy to date, this period varying from one to four months; others suffered recurrence within 24 hours to one month."—Rottino, A., *Proc.Soc.Exper.Biol. &Med.* 71:379, 1949.

AIR FORCE MEDICAL SERVICE

The U. S. Air Force Medical Service will commission 300 civilian physicians now serving as internes, as first lieutenants on active duty with the Air Force Medical Reserve Corps, Major Malcolm C. Grow, Surgeon General of the Air Force announced recently. Eligible to receive commissions are medical school graduates now serving interneships at approved hospitals, who have at least six monts of interneship training remaining. Physicians who are so commissioned will serve two months of active duty for each month of interneship as commissioned officers of the Medical Reserve Corps. Upon finishing active duty tours, officers who apply and are selected, as members of the regular Air Force Medical Corps, will be eligible for participation in the Air Force Residency program to be conducted at civilian and military hospitals. Complete information concerning the interne program may be obtained on written request to the Officer's Procurement Branch, Office of the Surgeon-General, Headquarters, U. S. Air Force, Washington 25, D. C.

TRUE AESCULAPIAN STAFF

Since there seems to be no basis for the belief that the ancients attributed healing powers to Hermes or Mercury, it is probably that the confusion in using the caduceus as a medical emblem arose from its similarity with that Aesculapius is always depicted holding at his side, a knotty staff with a single serpent coiled around it. Because the snake renewed itself periodically by sloughing off its old skin, the Greeks considered it a natural symbol of healing.

THE SURGICAL TREATMENT OF HYPERTENSION

By James L. Poppen, M. D.,
Department of Neurosurgery, The Lahey Clinic,
Boston, Massachusetts

The treatment of essential hypertension has not been solved. Definite progress toward this end has been made, however, in the last decade. This is noteworthy since the etiology of this condition remains obscure. Credit should be given to the surgeon for stimulating the investigative work which is being done to solve the problem of hypertension. It is needless to say that never before has there been as careful an analysis of patients suffering from hypertension. Unfortunately, in the past the report of results has been based upon impressions rather than facts. It is the tendency of all of us to remember the patient who did well and forget the less fortunate results, regardless of the type of therapy. I am certain that surgeons are not under the impression that sympathectomy is the only answer in the treatment of hypertension. It is true that a few reports have seemed overenthusiastic whereas a few have been unenthusiastic about results following sympathectomy. The problem, as I see it at the present time, is not the relative merits of surgery versus medicine. There are, of course, considerable differences of opinion regarding the treatment of hypertension in a given patient, and this will always be true. There are internists who believe that no patient should ever be subjected to surgery in an attempt to treat hypertension and it is quite probable that some drug will be developed in the future that will cure certain types of hypertension. In the meantime, however, I do feel from experience with a large group of surgically treated hypertensive patients that surgery is worth while in treating certain phases of the disease.

FEW GROUPS STUDIED

Very few large groups of medically treated patients have been systematically studied for a long period of years. The Keith-Wagener study is a notable exception. Recently Burgess has analyzed the results of 100 medically treated patients, with interesting results that had previously been suspected, although not substantiated by factual evidence. Palmer et al studied 646 cases, which is a noteworthy series, followed for eight years from the medical standpoint, indicating that a follow-up of fifteen to twenty years is necessary to be certain one form of treatment is superior to another as indicated by longevity.

The rise or fall of sympathectomy in the treatment of hypertension will be determined chiefly by the answers to the questions, "does it make the patient live longer," and "is the morbidity less in the patients who do live longer?"

In many instances decided lowering of the blood pressure occurs following dorsolumba sympathectomy. Considerable credit should be given to Adson and Craig, of the Mayo Clinic, and Peet, of Ann Arbor, who initiated the surgical treatment of hypertension in the United States. Smithwick combined the supradiaphragmatic approach of Peet with the subdiaphragmatic approach of Adson and demonstrated that extensive removal of the sympathetic nervous system was necessary to obtain prolonged lowering of blood pressure. Grimson, in 1941, described the technic for total thoracic and partial to total lumbar sympathectomy.

PEET TECHNIC

In my experience since 1934 with the surgical treatment of hypertension, the technic suggested by Peet was first employed. Later the subdiaphragmatic approach was used as advised by Craig and Adson. In 1938 the latter technic was combined with a unilateral nephro-omentopexy. Since 1940 by gradual evolvement, the operation has become more and more extensive.

It has been shown by many investigators that regeneration of the sympathetic nervous system is most difficult to retard. That this is true has been demonstrated to my satisfaction in several instances in which gaps made in the splanchnic trunk of several centimeters were completely filled in by regenerated tissue. The silver clips which had been placed on the proximal and distal ends of the splanchnic nerve were completely grown over by a neuroma formation of sympathetic tissue, the intervening regenerated trunk being perfectly capable of transmitting reasonably normal sympathetic impulses. The preoperative blood pressure levels and severe headaches had returned in patients after two years had elapsed and these patients were subjected to further removal of the sympathetic nervous system, with alleviation of subjective and objective symptoms. It has been my experience that if a drop in blood pressure does not occur within a reasonable length of time following operation, more extensive removal of the sympathetic nervous system will not be beneficial. Therefore, subjecting hypertensive patients to further sympathetic denervation is justified only in patients who have obtained relief of symptoms for six months or more and whose previous complaints then returned as the blood pressure became elevated. Neither the mortality nor the morbidity is increased by the technic that is employed at the present time and the added assurance that a more complete denervation has been accomplished makes this procedure a justifiable one.

ROUTINE REMOVAL

The technic employed at the present time has been described elsewhere. The fourth thoracic to the second lumbar inclusive are routinely removed. The results of the extensive dorsolumbar sympathectomy have led us to change our criteria for the selection of patients. Sympathectomy is of little or no value to those who have suffered severe cardiovascular or renal damage.

In the selection of patients there are two courses to follow : (1) to operate on all patients with hypertension except the moribund or (2) to curtail the indications for operation. We have used the Wagener-Keith classification of hypertension. In Group I the blood pressure drops to normal on rest, and the fundi are Grade I which is demonstrated by an increased light reflex of the retinal vessels. In Group II the blood pressure drops to normal or near normal on rest or sedation with sodium amytal, with fundi Grade II, demonstrating compression at the arteriovenous crossings and often demonstrating segmental, migrating constriction of the artery. In Group III the blood pressure drops but little on rest or sedation and hemorrhage or exudate is demonstrated in the fundi, in association with marked migrating or persistent segmental constriction of the arteries. In Group IV the blood pressure is high and does not drop on bed rest or sedation with sodium amytal. In the latter test, the diastolic pressure stays well above 100. The fundi demonstrate papilledema with hemorrhage, exudate and fragmentation of arteries. Patients with

Grade III or IV fundi hay have labile blood pressure, that is the diastolic pressure may drop below 100 mm. of mercury on sedation with sodium amytal or will drop after administration of vasodilators with the patient in the supine position.

TREATMENT DESCRIBED

We rarely operate immediately on patients with Grade I fundi and on patients if any whose blood pressure falls to normal on rest. We prefer to follow their course for a period of time and attempt medical treatment. Many patients with benign hypertension will tolerate their labile blood pressure well for a normal life span. If, under observation, their basal resting diastolic pressure is consistently found to be above 100 mm. of mercury or signs of vascular or cardiorenal damage develop, operation is advised. Patients over 50 years of age are rarely accepted. However, we have operated on a few patients between 50 and 57 years of age if they still have a labile blood pressure and do not show evidence of arteriosclerosis. We reject patients with long-standing hypertension who have reached the age of 50 and who seem to be tolerating their hypertension well. Minor cerebrovascular accidents from which the patient has largely recovered do not by themselves contraindicate operation. No patient is accepted who has severe right-sided congestive heart failure, but those who have experienced episodes of nocturnal dyspnea are not considered to have a contraindication if the renal function is good and the blood pressure labile. We reject patients who have any severe degree of coronary insufficiency or who have had coronary infarction. The existence of mild angina pectoris with normal exercise tolerance tests, a normally sized heart, and without much dyspnea on exertion, or angina pectoris with a large neurogenic factor does not contraindicate operation. We do not accept patitnts with poor renal function, especially if the nonprotein nitrogen remains over 40 mg. per 100cc. or if the intravenous pyelogram shows inadequate concentration of dye. Poor concentration on the Fishberg test, poor phenolsulfonphthalein excretion, albumin in the urine, poor urea clearance, and a few casts or red blood cells in the urine should not individually rule out a candidate. A combination of such poor results, however, points to such renal damage that it may be considered irreversible and the patient rejected for operation.

SCREENING OUT

We carefully screen out the following: glomerulonephritis, coarctation of the aorta, polycystic kidneys, pheochromocytoma, brain tumors, endocrine disease such as Cushing's syndrome, the systolic hypertension of arteriosclerosis and unilateral Goldblatt's kidney. In the case of Goldblatt's kidney it has been our policy to do a splanchnicectomy on the same side as the nephrectomy is performed. We then wait to see whether there is a secondary rise of blood pressure after this first stage splanchnicectomy. If there is, splanchnicectomy on the other side is carried out. If no elevation of blood pressure takes place after the first stage splanchnicectomy, the hypertension is not completed.

We reject the patient with Grade IV fundi if he has a fixed blood pressure with or without the usual widespread cerebrocardiorenal disease.

The positive indications for operation are as follows.

Operation is urged on patients with Group II fundi and labile blood pressure because good results are obtained in 73 per cent. We especially recommend operation if there are signs of degenerative cardiovascular disease in which we believe the changes are still reversible. This may include individuals with enlarged hearts but without a history of congestive failure. If there is evidence only of early renal sclerosis with albumin in the urine, with some limitation of concentration and nocturia, they are accepted for operation. Albumin and nocturia will often disappear after splanchnicectomy. We operate on many patients with Group III or IV fundi if there is a fair degree of lability of blood pressure and none of the cardiovascular renal contraindications, stated previously, are present. We include patients for operation who have chronic pyelonephritis with hypertension whose nonprotein nitrogen is not elevated and whose intravenous pyelograms still show fair power of concentration. An added requirement for the treatment of chronic pyelonephritis is sterilization of the patient's urine before operation.

PATIENTS REVIEWED

In May 1947 Lemmon and I thoroughly reviewed 100 patients on whom I had performed extensive sympathectomies. Early in the series the operation extended from the ninth thoracic through the second lumbar ganglion and later from the fifth thoracic through the second lumbar ganglion. Evans and C. C. Bartels reviewed 275 patients in whom I had removed the fourth thoracic ganglion through the second lumbar ganglion, and the results were interesting from a comparative standpoint. The study of the results of high dorsolumbar sympathectomy from the fourth thoracic to the second or third lumbar ganglion was undertaken in an attempt to ascertain whether a larger number of patients with all types of hypertension was being treated by this method than by lower sympathetic resection in the former series. Special interest was taken to determine whether more patients with Group III fundi could be salvaged. All of the operations have been performed by one operator. Although this series was followed a shorter time and doubtless with the lapse of the time the figures will not be as marked, the superiority of the results in patients with Grade III fundi, that is hemorrhage with exudate, has been striking, rising tenfold, from 4 to 44 per cent. The poor results have dropped one-half, from 37 to 15 per cent. Good results in patients with Group I and Group II fundi have almost doubled, from 39 to 74 per cent; poor results are less than half, having dropped from 23 to 9 per cent. High dorsolumbar sympathectomy did not protect 8 of 273 patients in this series from subsequent cerebrovascular accidents, 2 of them fatal. Angina was wholly or partially relieved in 60 per cent of 15 patients, none of whom had serious coronary disease.

Ninety per cent of patients with abnormally wide transverse diameters of the heart showed reduction of heart size, 64 per cent to normal. There was improvement in 42 per cent of 50 patients who had abnormal electrocardiograms. Seventy-five per cent of 45 patients with nocturia reported complete or partial relief. Renal function tests were improved in 58 per cent of 55 patients who had one or more impaired tests before operation. Retinal vascular changes improved in 66 per cent of 170 patients.

OPERATIVE MORTALITY

The operative mortality was still 0.5 per cent. The mortality rate for the entire series within the follow-up period of six to thirty-three months was 7 per cent. I do think that we should be loathe to consider this type of operation with its prolonged, uncomfortable convalescence as a prophylactic operation for benign hypertension, but I do urge it on patients under 50 years of age with spastic, exudative and hemorrhage retinal arterial changes, moderate cardiac damage and signs of early nephrosclerosis.

The important point so far as I can determine is that the more extensive operation evidently does not increase the mortality, it still being 0.5 per cent in patients on whom the more extensive sympathecto-

mies were performed. Therefore, if sympathectomy is going to answer the question of hypertension, in a well selected group which it obviously does for the time being at least, then one should not tailor the operation as has been suggested by others. The reason for this is that the sympathetic nervous system regenerates very rapidly, indeed. We know that sympathetic ganglion cells may be present in the rami communicantes; we also know that the splanchnic trunk is made up of branches from the thoracic ganglions and that it may originate as high as the fourth thoracic ganglion, and in one instance in the eighth thoracic, even though in most instances the topmost branches come off the fifth or sixth thoracic ganglion. Since it is so difficult to reoperate on these patients after a sympathectomy has once been performed, I believe that if sympathectomy is indicated at all, one should remove the entire splanchnic system, in that manner at least retarding regeneration for a greater length of time, and perhaps permanently interfere with the efficiency of the system.

EJACULATORY POWER

That the lumbar sympathetic nervous system has a definite influence on the ejaculatory power in the male is well known. It seems reasonable to assume that in a system so variable as to the structure of the ganglions and the number of rami, the ejaculatory power may at times be distributed equally in the lumbar ganglions even though most frequently one must assume that the first or second lumbar ganglion is predominantly in control. Our results do not prove which of these is the more dominant, but there is evidence that resection of both of them frequently interferes with the ejaculatory power. One of the patients who was impotent and childless had been married for ten years before operation. He had never used any contraceptive devices. Resection included the first and second lumbar ganglions on both sides. Twenty-eight months after the surgical procedure he stated that power of erection, libido and potency were excellent and ejaculation normal. This patient became the father of a baby boy. Forty-one per cent of the male patients had normal ejaculation after the operative procedure; 21 per cent had no ejaculation. In 18 per cent the power of ejaculation was diminished. Libido and potency were the same as before operative intervention in 65 per cent, diminished in 23 per cent and improved in 12 per cent.

Abnormal sexual changes were not noted in the females.

COMMENT

The final opinion as to the merits of thoracolumbar sympathectomy as a means of treatment of essential hypertension must necessarily remain open until the surgical and medical survival curves are compared for a period of many years. Since the operative mortality is 0.5 per cent and since several previous reports, as well as those of our series, indicate that a substantial number of patients obtain a good result, as evidenced by an arrest of the disease which allows a considerably more comfortable existence, we can arrive at no other opinion than that the procedure is well worth while in a selected group of patients.

It must be realized that hypertension is the leading cause of death and is four times as deadly as cancer. In many cases it causes as much discomfort to the patient as does cancer, in which one does not hesitate to make use of surgical means in an attempt to cure the disease or to lessen suffering. It is true that sympathectomy in the treatment of hypertension may well be replaced by directed intracranial operation on the blood-pressure centers or by the discovery of certain chemical or hormonal substances that will cure the disease. On the other hand, this may not occur in the present generation. Therefore, a surgical procedure that gives reasonable assurance of correcting or lessening the effects of the disease should be instituted until a more efficacious treatment has become available.

The objection to this operation lies in the fact that the patient is hospitalized for a period of about four weeks. Four days are spent in study. Many patients have considerable postoperative neuralgia, which lasts for several days or several weeks after their return home. Because of the alterations in blood pressure produced by changes in position, the legs and abdomen may need firm pressure bandages or support to avoid syncope or palpitation for several weeks or months after the operative procedure until the blood pressure has become thoroughly stabilized.

SUMMARY

A summary of the results, combining the Groups I to IV, demonstrated that excellent to good results were obtained in 63 per cent, fair in 24 per cent and poor in 11 per cent. As to subjective relief, 78 per cent of the patients in Groups I and II were relieved and 63 per cent in Group III obtained decided relief, but in Group IV two-thirds of the patients failed to obtain relief or died.

Operative Vs. Nonoperative Procedures For Uterine Fibroids

"Fibromyomas of the uterus, the most frequent tumors of the female genital tract, are functional growths dependent to a large degree on estrogenic stimulation."

"When the general practitioner discovers uterine fibroids, he should be cautious and reserved in announcing the presence of a 'tumor' to the patient, in order to avoid alarming and producing a severe and permanent psychic trauma. He may safely tell the patient that:

(a) Fibroids rarely require emergency treatment.
(b) They do not lead to cancer formation.
(c) More than 50 per cent may be watched and may never require operations.
(d) Small fibroids situated on the fundus rarely interfere with pregnancy and safe delivery.
(e) At the menopause small fibroids involute and disappear."

"Involution of fibroids near or at the menopause is delayed by premature administration of estrogens."

"Fibroids up to the size of a 3 month fetus may be expected to shrink to clinically unimportant residua with the menopausal involution."

"The present tendency in the treatment of fibroids still is too radical. Operation is performed too often." —Frank, R.T., J.A.M.A. 140:1001, 1949.

Excessive Hypertension of Long Duration

"Hypertension, even of an excessive degree, that has been present eight years or more and is not associated with well established cardiac or renal disease usually does not indicate a poor prognosis. In fact the patient usually lives to within three or four years of his normal life expectancy."

"It is suggested that when the physician is confronted with a patient who is not over fifty years old and in whom he finds excessive hypertension, frequent examinations should be made for evidence of progression, especially for the signs of retinal, renal or cardiac damage. In the absence of such evidence it is believed that resort to surgery may well be delayed."—Burgess, A.M., *New Eng. J. Med.* 239:75, 1948.

THE STATUS OF SYMPATHECTOMY IN THE TREATMENT OF HYPERTENSION

By Leopoldo Villareal, M. D.,
El Paso, Texas

Approximately one year ago Dr. Villareal presented a paper relative to the surgical management of hypertension before the El Paso County Medical Society which was carried in SOUTHWESTERN MEDICINE. Many of the readers of SOUTHWESTERN MEDICINE expressed interest in the follow-up of the cases reported. Dr. Villareal with his usual courage of his convictions has reviewed his previous cases in a talk before the Staff of the William Beaumont General Hospital, and has graciously allowed the editors of SOUTHWESTERN MEDICINE to carry this article in the present issue. It is peculiarly fitting that this article should be carried with a similar article by Dr. Poppen, as it affords the readers an over-all view of this particular phase of the treatment of hypertension.

Although sympathectomy has been used in the surgical treatment of hypertension since 1933, and a great deal of study, analysis of operated cases and research has been done, there still exists a great deal of confusion in the minds of surgeons interested in this problem, both as to the selection of patients, technique of operation and end results. If this situation exists in the minds of the men doing the work, there is no reason to be surprised why it should not be more so to the internist, who must be impressed by certain facts: that the operation has not been placed on a rational basis; that although symptoms are spectacularly relieved, the durability of the improvement remains open to question; that a review of the literature will show contradictory statements about every single phase of the problem. All of this confusion is understandable when one realizes the complete haze which exists about hypertension itself; its etiology, classification and treatment.

We have been interested in the problem of hypertension for about 11 years. During this time we have gradually increased the range of desympathectomizing a patient from the Peet procedure to the thoracolumbar resection of Smithwick, to the present radical resection of removing from third dorsal through third lumbar. What, in our minds, has been justification for the doing of these procedures? We have tried to answer whether this operation would accomplish two purposes, that is (1) relief of symptoms and (2) prolongation of life.

COMPARISON MADE

Regarding the first point one has only to compare a surgical group of cases with a group treated by non-surgical measures to realize that the operation brings about relief of symptoms in 80 to 85% of the cases. The progression of the hypertensive state is retarded; the recurrence of complications has diminished and the elimination of hypertensive retinopathy has occurred in most patients. As to the second point, the answer is less clear. This is due to the variations in technique as well as extent of resection. Each surgeon usually gradually extends the level of resection, plus the fact that extensive resections have been carried out over too short a period to be of true value. We have been doing our present extensive procedure for 4 years. Last year we presented before the Medical Society a review of 26 cases and have since then done 11 more. We will, from time to time, give a follow-up review on all of these cases, for only after following these cases, treated with a standardized treatment and followed for a number of years, will we have an answer to some of the problems listed in the preceding paragraphs. Up to this time, we believe, however, that life is prolonged. **Why do we believe this?** Because of results obtained as in the following two cases:

Note No. 1: Mrs. A. I., 52 years of age, had a blood pressure of 290/160, severe encephalopathy, EKG signs of marked left ventricle strain. Had a bilateral thoraco-lumbar sympathectomy 4½ years ago. Since then, under a full active life, has never had a pressure recorded higher than 170/90. The headaches are gone, the shortness of breath is gone.

Note No. 2: Mrs. M. G. B., 42 years with severe insomnia, nervousness, palpitations, tachycardia, headaches, blood pressure 250/130. Sympathectomy 4 years ago. Last recorded B. P. in Dec. 1949, 152/84. No symptoms. Normal active life as a housewife.

LIFE PROLONGED

Certainly, I cannot help but feel that life in individuals like these, who have had such a heavy burden lightened, is prolonged. How long will these results last, I do not know. These two cases have been over 4 years and there is no evidence of beginning retrogression to their former state.

As long as we are able to answer these 2 points in the affirmative with our own cases, we will continue to slowly tread through the complex problems of sympathectomy in hypertension.

Hypertension is a common symptom of some 50 or more fundamentally different disorders. Page has classified these under 5 different headings:

(1) Renal (2) Cerebral (3) Cardio-vascular (4) Endocrine (5) Unknown. The first four groups contain many generally recognized disease entities, such as chronic nephritis, chronic pyelonephritis, intracranial tumors, coarctation of the aorta and tumors of the pituitary or adrenal glands. All of these conditions must be excluded before a diagnosis of essential or malignant hypertension can be made.

In a disease such as hypertension, it is important that everybody know what type of cases are being discussed, and the results presented are for what types of cases. Until this is standardized, it will be impossible to judge impartially the results present. For this we need a thorough understanding of what classification the author is using. The basis of all classifications is the concept of Keith Wagener and Barker, that hypertension per se, causes increasing damage to cerebral, retinal, cardiac and renal structures and the stage of the disease can be defined by the advancing damage in these organs. We use the de Takats classification which consists of three groups instead of the four in the basic classification. Group I

is a combination of the old No. 1 and No. 2 Wagener-Keith and Group III is a combination of late grade 3 and 4. This is used because of the conviction that the malignant and premalignant phases of hypertension are not a surgical problem and secondly, because the grade I and early grade 2 of Keith give excellent operative results.

GROUPS CLASSIFIED

Classifications of groups:

Group I. Age below 40, minimal or no detectable organic damage, normal blood pressure on complete rest or barbiturates. Casual diastolic blood pressures about 100 Man. Hg.

Group II. Age up to 55 yrs., mod. vascular sclerosis in all organs, well demonstrable angiospasm, diastolic pressures cannot be lowered below 110 mm. Hg. by any method, rising diastolic pressure during the last 6 months.

Group III. Large recurrent retinal hemorrhages and exudates or papillo-edema. High fixed diastolic pressure which cannot be lowered below 120 Mm. Hg.; congestive or anginal heart failure; poor renal function; numerous cerebro-vascular accidents; an actual malignant or pre-malignant state of hypertension with continous maximal angio-spasm not influenced by depressor stimuli.

All of these classifications are simply the expressions of the degree of organic vascular damage. Whether the hypertension is renal or non-renal does not find expression in these classifications. Since it is the so-called neurogenic hypertension which is considered the ideal case for sympathectomy by most of the men doing this work, it is felt that what is urgently needed is a separation of the renal from the non-renal factor. It is becoming obvious that both may operate in the same patient, in varying sequence and varying proportions. It is clear to most surgeons in this field that in attempting to correct hypertension, he can, at best, hope to influence some of the factors. Sympathectomy, as practised today, if extensive enough, can diminish sympathetic adrenal activity, inhibit renal spasm and, above all, diminish anteriolar tone. Certainly, it does not affect the psyche, the parenchymal lesion of the kidney and probably not the adrenal cortex. Therefore, in selecting cases, it is important to exclude those wherein the latter factors are predominant.

CONTRA-INDICATIONS

We consider the following as absolute contraindications to operation:

(1) Extensive organic damage to brain retina, heart, or kidney. Persistent papillo-edema and nitrogenous retention are absolute contraindications. A previous stroke or coronary occlusion is not necessarily considered as a contraindication.

(2) Mechanical obstruction to circulation. In this group is included coarctation of the aorta or regurgitation; likewise, the rigid sclerotic aorta, with the high pulse pressure.

(3) Marked psychic involvement.

Selection of Patients:

No single test or combination of tests has proved accurate to a high degree in spite of considerable study of this phase of the problem.

Hinton and Lord, in a recent review, attempting to arrive at some conclusion on this problem, studied 66 patients who had done specially well. They were studied from the following standpoints: Age, sex, known duration of hypertension, average pluses on their scale, average blood pressure, renal status. We are quoting theirs, and for the sake of interest, giving our corresponding figure.

Theirs		Ours
	AGE	
42 yrs.	Average	45.2
58 yrs.	Old	59
19 yrs.	Young	39
	SEX	
45 yrs.	Females	23
21 yrs.	Males	8
	DURATION OF HYPERTENSION	
7 yrs.		6 yrs.
	AVERAGE TOTAL PLUSES	
6		5

Table I
Definitions

IN GENERAL IN ANY SYSTEM—

0 Normal.
1 plus Slight or mild changes.
2 plus Moderate changes.
3 plus Moderate changes.
4 plus Advanced or marked changes.

CEREBRAL—

0 No symptoms or signs.
1 plus Headaches and/or dizziness and nervousness.
2 plus Above, plus nosebleeds and/or occipital headaches.
3 plus Above, plus paresthesias.
4 plus Stroke or encepthalopathy or confusion.

EYES—

0 Normal.
1 plus Arteriolar narrowing.
2 plus Above, and arteriovenous nicking.
3 plus Above, plus hemorrhages and exudates.
4 plus Above, plus papilloedema.

CARDIAC—

0 No symptoms or signs.
1 plus Slight symptoms and/or slight cardiac enlargement and slight electrocardiographic changes.
2 plus Moderate symptoms and/or moderate x-ray enlargement, and moderate electrocardiographic changes.
3 plus Marked symptoms and/or marked cardiac enlargement and marked electrocardiographic changes.
4 plus Coronary occlusion or congestive heart failure.

RENAL—

0 Normal.
1 plus Nocturia but concentration of 1.024 or more and urea clearance of 75% or more.
2 plus Urea clearance of 40-75%, concentration of 1.015-1.023.
3 plus Urea clearance of less than 40%, concentration less than 1.015, normal chemistry.
4 plus Persistent elevation of N.P.N. to 45 mgms. or more, and B.U.N. to 25 mgms. or more.

RULES

Contraindications to thoracolumbar sympathectomy:

1. 4 plus Renal.
2. 4 plus Cardiac in which congestive failure is unremitting, or if coronary occlusion has occurred within three months.
3. 4 plus Cerebral if confusion exists or if a stroke has occurred within three months.
4. If there are two 4 plus other than eyes.
5. If total count equals eleven or more pluses.

The renal status was good in 64 of 66 of their patients, in all 31 of ours. This, then, is a pre-requisite since it is a known fact that thoracic-lumbar sympathectomy improves renal function very little.

AVERAGE BLOOD PRESSURE

195/125 215/125

In order to properly evaluate the cerebral, cardiac, renal and muscular status of each patient, the following studies, in addition to a careful history and physical must be done.

(1) Fundus exam. (2) EKG (3) Six foot heart plate. (4) Urine conc. test. (5) Urea clearance test. (6) N.P.N. and Creatinine. (7) Urinalysis. (8) Intravenous pyelogram. (9) B.M.R. (10) Psychiatric evaluation.

All patients are tested with Sodium Amytal test. We agree, however, with almost everybody else that all pressor and depressor tests are entirely unreliable in the selection of patients.

TYPE OF OPERATION

We are today using a modification of the Smithwick procedure, removing from the third dorsal through the third lumbar, bilaterally in two stages, one week apart. This extensive sympathectomy is made possible by utilizing a long hockey stick, para vertebral incision which goes trans-diaphragmatically. Following the suggestion of Poppen a paravertebral section of the 11th and 8th ribs is done, and then the pleural fold is reflected forward, exposing the chain and resecting as much as is deemed necessary for the patient.

RESULTS AND POST OPERATIVE COMPLICATIONS

Thirty-seven cases of hypertension are being reported on, who have undergone 73 sympathectomies, all with the same extensive technique. All have been done within the last 4½ years. There has been one death in the series, this was due to a coronary thrombosis which occurred immediately after the first stage. We have had no post-operative uremias. There were two pleural effusions, one of them complicated by a local wound infection on one side. The pleura has been torn in spite of painful dissection in about 25% of the cases. As reported before, intercostal neuralgias and back aches are a real problem. Postural hypotension is present if adequate denervation is carried out, but this is not disturbing after 6 to 8 weeks.

In conclusion one can state that there can be little question that sympathectomy has a place in the ill-defined program of treatment of hypertension, but in view of its tentative rationale and the wide difference of opinion as to its value, it must be regarded as an experiment as yet unfinished.

*Address delivered at Wm. Beaumont General Hospital, February 24, 1950.

SYNDROME OF SALT DEPLETION

"Seven cases are briefly reported that demonstrate some of the untoward effects, including 4 fatalities, which may occur in cardiac patients subjected to a regimen of sodium restriction and sodium diuresis. The blood urea nitrogen was determined in 7 patients, the blood chlorides in 6 patients and the blood sodium in 1 patient while the phenomena of congestive heart failure were present and while this regimen was still being used."

"The blood chloride and the blood sodium were reduced and the blood urea nitrogen was elevated in each instance. . . . The great advance in the therapy of heart disease by the introduction of a regimen of sodium restriction and sodium diuresis is emphasized, but the importance of individualizing this therapy and of being alert to the possibility of the patient's having passed from the therapeutic to the toxic stage of this therapy is particularly stressed."

"Note.—No salt substitute was used by any of these patients, so that neither lithium nor potassium intoxication had to be considered as possible aggravating factors." — Soloff, L.A., and Zatuchni, J., J.A.M.A. 139:1136, 1949.

Army Exhibit At Neurological Congress

"Founders of Neurology in the past century" is the theme of an exhibit by the Army Medical Department displayed at the Fourth International Congress of Neurology, held recently in Paris. The exhibit featured the photographs and copies of the outstanding work of 122 of the world's greatest neurologists, representing 16 countries. The selection was made by a committee of 25 leading American Neurologists. Many of the books and photographs are from the collection of the Army Medical Library and are quite rare. Dr. Webb Haymaker, chief of the neuropathology section of the Armed Forces Institute of Pathology, expressed the hope that "as the leaders in the field of neurology meet to exchange ideas on present-day problems, the exhibit will enable the rich heritage left by such masters as Claude Bernard, Cajal, Charcot, Helmholtz, Hughlings Jackson and Pavlov, remind us that the history of a subject cannot be divorced from its pursuit and that scientific achievement knows no international boundary."

Auromycin

"A preliminary study of 25 patients with lymphogranuloma venereum treated with aureomycin, a new antibiotic [with apparent virucidal properties] is reported. Eight patients with buboes were treated and showed a decided reduction in size of the node at the end of four days' treatment.

"Three patients with proctitis were treated and showed decided improvement, in 2 instances after four days and in the third case after eight days. . . . Fourteen patients with benign rectal stricture due to lymphogranuloma venereum were studied and showed no gross pathologic change in the fibrous rectal stricture although there was decided decrease in rectal pain, discharge and bleeding. There was an increase in the diameter of the stool.

"The clinical results in the three types of lymphogranuloma venereum discussed . . . showed such results as to warrant further extensive research and clinical trial of the antibiotic."—Wright, L. T., **et al., J. A. M. A.,** 138:408, 1949.

THE FUNDUS IN HYPERTENSION AND ARTERIOSCLEROSIS

Charles P. Elsberg, M. D., El Paso, Texas

Diseases of the vascular system of the eye are of the greatest importance, not only because of their effect on the nutrition of the membranes, but also for their consequences on vision and its relation to systemic diseases.

The fundus of the eye is the only place in the body in which arteries and veins can be seen directly and clearly without surgical interference and with high magnifications. The retinal vessels are easily and clearly observed with the ophthalmoscope and changes in their walls, even of a minute character, are readily detected with the high magnification of the direct method.

Retinal vessels frequently show the same changes that affect the vessels in any other part of the body, so that general arteriosclerosis, hypertension and nephritis have ocular symptoms. Retinal vessels are an off-shoot of the cerebral vessels and therefore, important diagnostic conclusions can be made of the condition of the concealed cerebral vessels from the study of the retinal system. The name of cerebroscopy was given by Bouchut many years ago to the examination of the retina and its circulation. "Cerebroscopy" is an exaggeration, but still has the merit of emphasizing the importance of the pathology of the retinal vessels.

ARTERIES

The arteries branching from the main trunk in the papilla correspond by their size to the arterioles of any other part of the body. They end in capillaries which empty into the veins and do not communicate in any part of their course with the choroidal vessels. The retinal vessels thus form a terminal system; and, when morbid changes occur, which retard or impede the circulation of the blood, extremely grave consequences result for the nutrition of the retina.

In order to clarify how the structural features of the inner membranes of the eye can produce a given ophthalmoscopic picture it is necessary to correlate the one with the other, pointing out the anatomical facts which underlie certain appearances of the fundus. The minutest details of the normal fundus must be studied, not merely for their scientific value, but because a basic knowledge of these details is essential for the recognition and interpretation of pathological conditions.

In the large trunks the distinction between the arteries and veins is easy to make; the color is different; the arteries are of a bright yellowish red; the veins are strikingly darker, wine red or blue red. However, there is not so marked a difference in the smaller twigs, and it is frequently necessary to trace the vessels to their sources in order to make the distinction between the arteries and veins.

The retinal vessels never anastomose with each other. They frequently cross, and of the two vessels one is always an artery and the other a vein. The artery may be above the vein or vice versa.

REFLEX DESCRIBED

In the center of the arteries, which have a double contour, is a bright yellowish stripe called the reflex. It is about one fourth the breadth of the artery. There is also a reflex streak in the veins, narrower and less distinct than that of the arteries, its breadth being about one-twentieth of the diameter of the vessel.

What causes this light streak has been a subject of much discussion. Experiments and calculations made by Pierce, Wilmer and Friedenwald have shown that the light streak is due to the reflection of light on the convex surface of the vessels. They maintain that this surface is the external surface of the media or muscular layer of the arteries. In pathological conditions where there is an increase of the thickness of the media there is produced a widening of the light reflex.

The color of the fundus as seen with the ophthalmoscope depends upon the red background of the choroid from which the light is reflected through the filter of the retinal pigment. It will, of course, vary greatly with the amount of pigment present and this usually corresponds to a degree to the complexion of the patient. Thus, a decided blond will have a very light orange-red fundus while the fundus of a brunette is of a much darker red. In the Negro most of the light is reflected by the pigment epithelium itself and the fundus appears of a slate-gray color against which the vessels stand out sharply, the disc appearing pale by contrast. The retina anterior to the pigment epithelium is transparent in the normal eye and therefore is invisible in ordinary light. The vessels are visible and of these it is only the column of blood which is seen, the walls, when normal being transparent.

VEINS LARGER

We are taught that the veins are somewhat larger than the arterioles, usually in the proportion of five to four. It is acknowledged that the veins engorge after meals, and on excitement and therefore it is more important to note the size of the arterioles — not the so called five to four ratio. It is important too, to note that the width of the arterioles is greater in the inferior field and also in the temporal field. The normal size of the arterioles has been measured as follows

Temporal Field	Nasal Field
1. Superiorly: 110 Micra	1. Superiorly: 50 Micra
2. Inferiorly: 130 Micra	2. Inferiorly: 60 Micra

thus, saying that an arteriole in the nasal field is sclerotic merely because it is much smaller than those in the temporal field, is not correct. A further aid to show that it is a normal arteriole is the fact that these arteriolar light reflexes will show parallactic displacement.

Sclerosis of the retinal arterioles may be primary local, isolated disease but more often is associated with a systemic arteriolar sclerosis. The pathogenesis of both forms is still unsettled and confused and it would be impossible to discuss it here. Among the causes of general sclerosis have been mentioned alcoholism, senility, hypertension and nephritis, but it may be produced by infections (syphilis). Volhard and Mylius have recently advanced the theory that it is the result of spasm in the arterioles. The latter observed in the pre-eclamptic stage of the toxemia of pregnancy are transitory, spastic contractions of the retina arteries which are localized but change rapidly in degree and may appear at various points. If the

toxemia increases, the vascular spasm may assume a tetanic form and remain unchanged for hours or days.

PREVAILING VIEW

The prevailing view is that it starts with a fibrous thickening of the media due to abundant neoformation of the connective tissue and elastic elements followed by hyaline degeneration. The endothelium of the intima is finally involved and proliferates (endarteritis with thrombus and occlusion).

As stated before, the walls of the arteries in the normal retina are transparent. The first ophthalmoscopic sign of sclerosis is the veiling, decoloration and opacity of the walls of the arteries, which become visible as yellowish stripes on either side of the blood column. As the latter is also seen through the hazy wall, its color is changed to a pallid red. As the opacity progresses, the walls become entirely opaque and apear as white lines on either side of the blood column. The blood column is gradually narrowed by the restriction of the lumen, until the vessel is entirely obliterated and transformed into a white cord.

Another important ophthalmoscopic symptom is the broadening of the light streak in the arteries. The thickness of the media increases the width of the light reflex, relatively to the diameter of the lumen. At the same time an increase in the refractive index of the media will intensify its brightness. Sometimes this brilliant reflection, contrasting with the light yellow vessel wall on either side, makes the artery resemble copper wire (copper wire artery). At other times, when the wall becomes whiter, the artery looks like a silver wire (silver wire artery).

SIMPLE CLASSIFICATION

A simple classification of arteriolarsclerosis is:

Grade I —Loss of translucency and increase in light reflex.

Grade II —Light reflex is more marked and there is a slight a-v-nicking.

Grade III—Light reflex is extremely conspicious, calibre of vessel is diminished and there is marked a-v-nicking; There is a venous deflection.

Grade IV—Vessel is reduced to a mere thread.

Spasm may be very difficult at times to differentiate from sclerosis but the following may be of aid: namely, spasm reveals a decrease in light reflex associated with a loss of retinal lustre. The results of anoxemia-edema, exudates, and hemorrhages may be found in both spasm and sclerosis.

If the retina of pregnant women whose blood pressure is rising is examined frequently, the spasm of the arterioles can be recognized. The spasm may vary in degree or situation from day to day. It may be localized or diffuse. Later, if the constrictions persist, individual cotton-wool patches and hemorrhages appear in the retina. If the patient having arteriolar changes receives proper medical care, hemorrhages and cotton-wool patches will seldom occur, — and the full involvement of the retina should never be allowed to develop before delivery. It is important to emphasize that these patients have little, if any disturbance of vision.

When the spastic process is long and severe, the retinal changes may become organic and irreparable, in which case definite vascular changes persist after the delivery, together with arteriosclerotic kidney.

NEW RESEARCHES

The new researches on the role of arterial constriction and high blood pressure in the pathogenesis of arteriosclerosis and nephritis, have given new basic facts which point to a common origin for the three types of retinosis:

Albuminuric, arteriosclerotic and diabetic — essentially are the same — and findings are due to anoxemia: exudates and hemorrhages. It must be thoroughly understood that there is no pathognomonic fundus pattern of diabetes, for all of the changes can be duplicated in arteriosclerosis, and even lipaemia retinalis may result from high cholosterol. The classic description of "central punctate diabetic retinosis" is correct and complete—but only appears in the beginning of retinal involvement. The white spots are much smaller than those of nephritic retinosis and are located behind the retinal vessels. Hemorrhages (deep) may or may not be present. When considering the fundus changes resulting from nephritis, due consideration must be paid to both arteriosclerosis and hypertension, for often it is difficult to separate the signs of one from the other.

A simple, helpful classification of hypertension is as follows:

Grade I	Spasm
Grade II	Spasm + sclerosis
Grade III	Spasm + sclerosis + retinopathy
Grade IV	Spasm + sclerosis + retinopathy + papilledema

Above 115 Diastolic blood pressure — usually get retinopathy.

Below 115 diastolic blood pressure — usually don't get retinopathy. Spasm is a reversible process — just as are the signs of anoxemia, viz: edema, hemorrhages and exudates. Sclerosis is not a reversible process.

COURSE OF HYPERTENSION

The course of hypertension is one of interrupted or continuous progress. Many patients, especially women have been seen for more than twenty years before any hemorrhages appeared, and in many the systolic pressure was always 200 or higher.

More attention must be given to the signs of beginning decompensation. A single retinal hemorrhage may be the signal of approaching death, and, if disregarded, danger lies ahead. The extensive exudates and the papilledema are more often recognized because of their grossness.

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UNRESOLVED PNEUMONIA

An Exclusion Diagnosis

"Study and care of pneumonia patients should be continued until all pulmonary [x-ray] shadows have disappeared or age proved to be due to fibrosis. True unresolved pneumonia is rare while bronchiectasis, atelectasis and intrabronchial diseases are more common. Unresolved pneumonic exudate is situated in the alveoli and interstitial tissues where it may eventuate in fibrosis."

"Unresolved pneumonia is a diagnosis which can be established only after disease of the tracheobronchial tree has been excluded. The indiscriminate and inaccurate use of the term 'unresolved pneumonia' is disparaged."—Hinkel, C. L., *Am.J.Roentgenology* 61:335, 1949.

MANAGEMENT OF ACUTE HEAD INJURIES

A Bulletin Prepared for
THE COMMITTEE ON TRAUMA
of the
American College of Surgeons
By The Special Committee of
THE HARVEY CUSHING NEUROSURGICAL SOCIETY

Frank H. Mayfield, M. D., Cincinnati, Chairman
Spencer Braden, M. D., Cleveland
Dean H. Echols, M. D., New Orleans
*Cobb Pilcher, M. D., Nashville

Head injuries may be classified as (A) open and (B) closed. Open injuries incur the risks of (1) hemorrhage and (2) wound infection. Closed injuries involve the risks associated with (1) immediate destruction of brain tissue (contusion, laceration, etc.) and (2) progressive damage secondary to (a) cerebral compression due to intracranial hemorrhage or edema, and (b) anoxia resulting from an inadequate airway.

For clarity, the treatment of open and closed wounds will be considered separately in this bulletin, but it is to be emphasized that both often are seen in the same patient and require consideration jointly.

TREATMENT OF OPEN WOUNDS

The proper treatment of **laceration of the scalp** consists of thorough cleansing, débridement and snug closure. As a first-aid measure, a compression bandage should be applied to control bleeding. Externally protruding foreign bodies should not be manipulated. When the patient's general condition permits and adequate equipment is available, the following procedure should be undertaken:

(1) Shave scalp widely about the wound.
(2) Cleanse wound with soap and water and irrigate thoroughly with copious amounts of solution (saline or water).
(3) Infiltrate margins of scalp wound with procaine.
(4) Remove dirt and excise devitalized portion of scalp.
(5) Explore skull for fracture.
(6) If no fracture, close wound snugly in one or two layers with interrupted sutures of nonabsorbable material.
(7) Give antitetanic serum or tetanus toxoid.

Simple lacerations may be closed in the Emergency Room by a single operator, but it is more satisfactory if the operator has an assistant to compress the margins of the wound to control bleeding.

Where the **laceration overlies a fracture,** surgical correction should be undertaken only in the Operating Room, for it may be necessary to remove dirt, hair, or débris from the fracture line or to remove bone fragments. One should be prepared to deal with bleeding from the dura and brain.

If the **brain is lacerated** or **foreign bodies are retained** within the brain substance, all macerated brain tissue should be removed, the foreign bodies removed if possible, particularly if they are nonmetallic, all bleeding controlled and the dura and scalp closed snugly. Surgical treatment of these wounds requires experience in brain surgery and special equipment (suction, lighting, electrocoagulation, etc.). With the use of chemotherapeutic and antibiotic agents, it is permissible to defer operative closure of wounds for many hours pending improvement in the patient's general condition and analysis of his neurologic status.

Leakage of cerebrospinal fluid from the nose or ear constitutes a special problem. Any cerebrospinal fluid fistula invites the risk of meningitis. Now, with an adequate screen of antibiotic and chemotherapeutic agents, one is justified in waiting ten to twelve days pending spontaneous closure. If the leak persists longer than this, surgical closure of the fistula should be considered. Some feel that lowering of the spinal fluid pressure to 99mm. of water by spinal drainage every twelve hours promotes spontaneous closure. Fortunately most fistulas do close spontaneously.

CLOSED WOUNDS

One of the most frequent causes of death after head injury is progressive cerebral damage due to anoxia. Many factors contribute to this:

(1) The capacity of the contused brain to utlilize oxygen is diminished.
(2) The cerebral blood flow is reduced, even though blood pressure may be elevated.
(3) The oxygen concentration of the blood is diminished as the result of a disturbed respiratory tract (tongue, mucus, pneumonitis).

The treatment in such cases is the maintenance of an adequate airway and the administration of oxygen. Patients frequently improve remarkably after clearing the airway and administering oxygen. The most satisfactory way of giving oxygen is by nasal catheter. Oxygen tents and masks interfere with attempts to keep the airway patent. Constant nursing attention, with a suction apparatus for the removal of mucus, is necessary. This may be supplemented by postural drainage (head down on face). Tracheotomy is indicated in certain cases.

The **differential diagnosis** between surgical and nonsurgical lesions is of primary importance in the management of acute head injuries and usually depends upon the patient's course. Hence, a carefully taken history, particularly as relates to the onset and duration of unconsciousness, and frequent and repeated neurological examinations are necessary.

Intracranial clot, such as extradural, subdural or intracerebral hematoma, usually is incompatible with life and requires surgical removal. Most patients with these lesions show progressive stupor, convulsions, focal paralyses and disturbance of the vital signs, such as alteration in pulse, respirations, etc. If the patient has been conscious and then loses consciousness, an expanding intracranial lesion is probably present. The

* Deceased.

lucid interval may be prolonged (days or weeks) with subdural hematoma. If the patient has remained continuously unconscious from the moment of impact, the coma may be due in part to contusion of the brain and in part to an expanding lesion. In such instances, it may be impossible to make a differential diagnosis clinically, and cranial exploration then is necessary if the patient's condition is growing worse.

The **surgical management** of these lesions is not within the scope of this paper.

SPECIAL EXAMINATIONS AND TREATMENTS

(1) **X-rays.** X-rays of the skull rarely influence the course of treatment, yet the procedure of taking films involves considerable manipulation and wastes time, both of which are detrimental to the ill patient. Hence, it is advisable that x-ray examination of the skull be deferred until such time as the patient is co-operative and his condition stabilized. Attention should always be given to the possibility of injury elsewhere, particularly to the cervical spine.

(2) **Position of Patient.** The position of election is with the head elevated, since this reduces venous congestion. The advantages of this position, however, are far outweighed by the disadvantages which might accrue from an obstructed airway, and if the patient's airway cannot be kept completely open with the head elevated, this position should be changed to one which best promotes an adequate airway.

(3) **Shock.** Surgical shock (peripheral vascular collapse) is rare in head injuries per se, but, when present, the usual measures (Trendelenburg position, intravenous fluids, heat, etc.) should be employed. Shock usually indicates associated injuries and demands primary consideration.

(4) **Fluid Balance.** In an effort to reduce or limit cerebral swelling after head trauma, certain writers have advocated rigid dehydration by withholding fluids, administration of hypertonic solutions intravenously, the use of magnesium sulphate enemas, etc. Rigid dehydration does harm rather than good to an ill patient, as the other vital body functions are interfered with. Fifteen hundred to 2000 cc. daily are necessary to keep the patient in fluid balance.

It is necessary in this connection to keep close watch upon the protein metabolism. Coma, stupor and prolonged confusion often result from protein depletion and can be prevented or corrected by the administration of protein hydrolysates, plasma or whole blood. If coma is prolonged, gastric feedings by nasal catheter are indicated, using a high protein diet.

(5) **Spinal Puncture.** Considerable controversy prevails concerning the indications for and the merit of spinal puncture in the diagnosis and treatment of head injuries. Some advocate daily spinal punctures as routine in the treatment of head injuries, but this is not generally accepted. The authors of this bulletin consider the indiscriminate use of spinal punctures dangerous. The following are considered proper indications for spinal puncture.

(A) Diagnostic—
- (a) To determine pressure where intracranial clot is suspected.
- (b) To determine the presence and/or degree of bleeding.

(B) Therapeutic—
- (a) To lessen intracranial pressure by withdrawing fluid as a temporary expedient pending measures that provide more lasting control of increased intracranial tension, such as surgical evacuation of clot.
- (b) Evacuation of bloody fluid when signs of meningisimus appear, usually four to eight days. Evacuation of fluid at this time usually relieves headache and speeds recovery.

Technique. When indicated, a spinal puncture should be done with the patient in the lateral recumbent position, using a standard spinal puncture needle.

The operator should make the following determinations: color of the fluid, initial pressure, final pressure and the amount withdrawn.

Jugular compression tests should not be carried out unless one suspects injury to the spinal column. These tests give no information of value with reference to the brain, and the sudden rise in spinal fluid pressure which follows jugular compression may be harmful after head injury.

Spinal puncture should not be attempted if the patient is unco-operative, for the information obtained is unreliable, and struggling against resistance may be harmful.

(6) **Control of Restlessness.** Patients who are restless and confused constitute a difficult nursing problem, and sedative medication may be necessary. Paraldehyde administered rectally or barbiturates — sodium amytal, sodium luminal — intramuscularly or intravenously are satisfactory. The latter are particularly indicated for the control of convulsions. Morphine and codeine are contraindicated because of depression of respirations, edema of the larynx, and alteration of pupils (diagnostic).

(7) **Convalescence.** Early ambulation is recommended after head injury. The patient should receive physical therapy in the form of active and passive exercises early and should be gotten out of bed into a chair as soon as he is able and willing to co-operate. Prolonged bedrest is conducive to traumatic neurosis.

Lacerations of the brain, such as are associated with depressed fractures and penetrating wounds, are frequently followed by a convulsive disorder. These patients should be given anticonvulsive medication for a period of several months after injury. The drug of choice is Dilantin Sodium gr. 1½ three times daily.

Many patients complain of residual headache, particularly in the posterior part of the head, and of dizziness. These symptoms generally are classified as posttraumatic neuroses. Recent observations indicate that they may result from trauma to the cervical roots and at times are relieved by cervical traction.

NOTE: The foregoing is one of several articles distributed by the Committee on Trauma, American College of Surgeons, through its Regional Committees.

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"...about 50% of the patients who consult the general practitioner have complaints for which there is no discoverable physical or organic cause"[1]

Although these patients have no apparent organic basis for their complaints, they are ill and merit attention.

In functional disorders, response to stress is effected via both branches of the autonomic nervous system. Therefore, treatment consists, where possible, in removal of the emotogenic factor (practical psychotherapy) and the "partial blockade" of the efferent autonomic pathways. The family physician is well-qualified to help these patients; his advice will do much to achieve the desired change in habits and to avoid unhealthy situations.

Medical treatment is also essential. Controlled sedation of the entire autonomic nervous system can be accomplished by simultaneous administration of bellafoline (cholinergic inhibitor), ergotamine tartrate (adrenergic inhibitor) and phenobarbital (central sedative) in the form of Bellergal. This preparation inhibits autonomic impulses without completely blocking organ function.

Karnosh and Zucker[2] state that, "Probably the best medication for all neurovegetative disorders is a combination of: (a) bellafoline . . . (b) ergotamine tartrate . . . (c) phenobarbital . . . A good commercial preparation of these ingredients is a tablet called bellergal . . . The adult dose of bellergal is 3 or 4 tablets daily."[3]

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SOUTHWESTERN MEDICAL ASSOCIATION

and EL PASO COUNTY MEDICAL SOCIETY

Vol. XXXIV APRIL, 1950 Number 4

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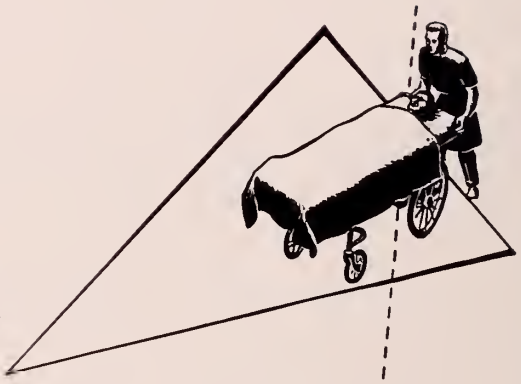
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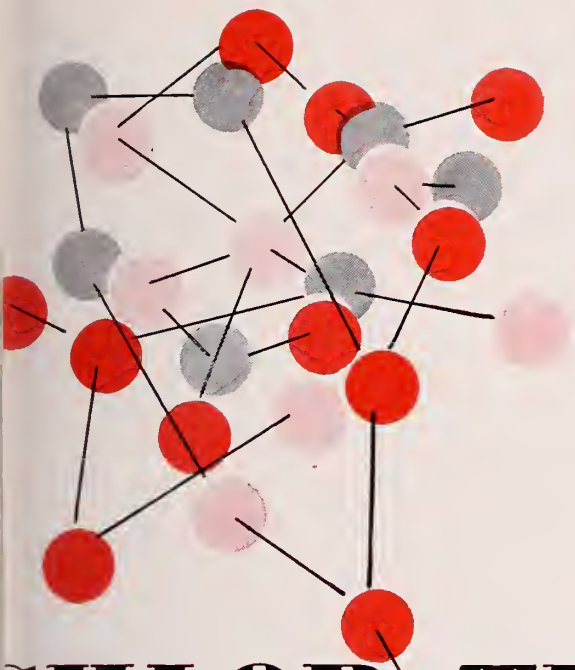
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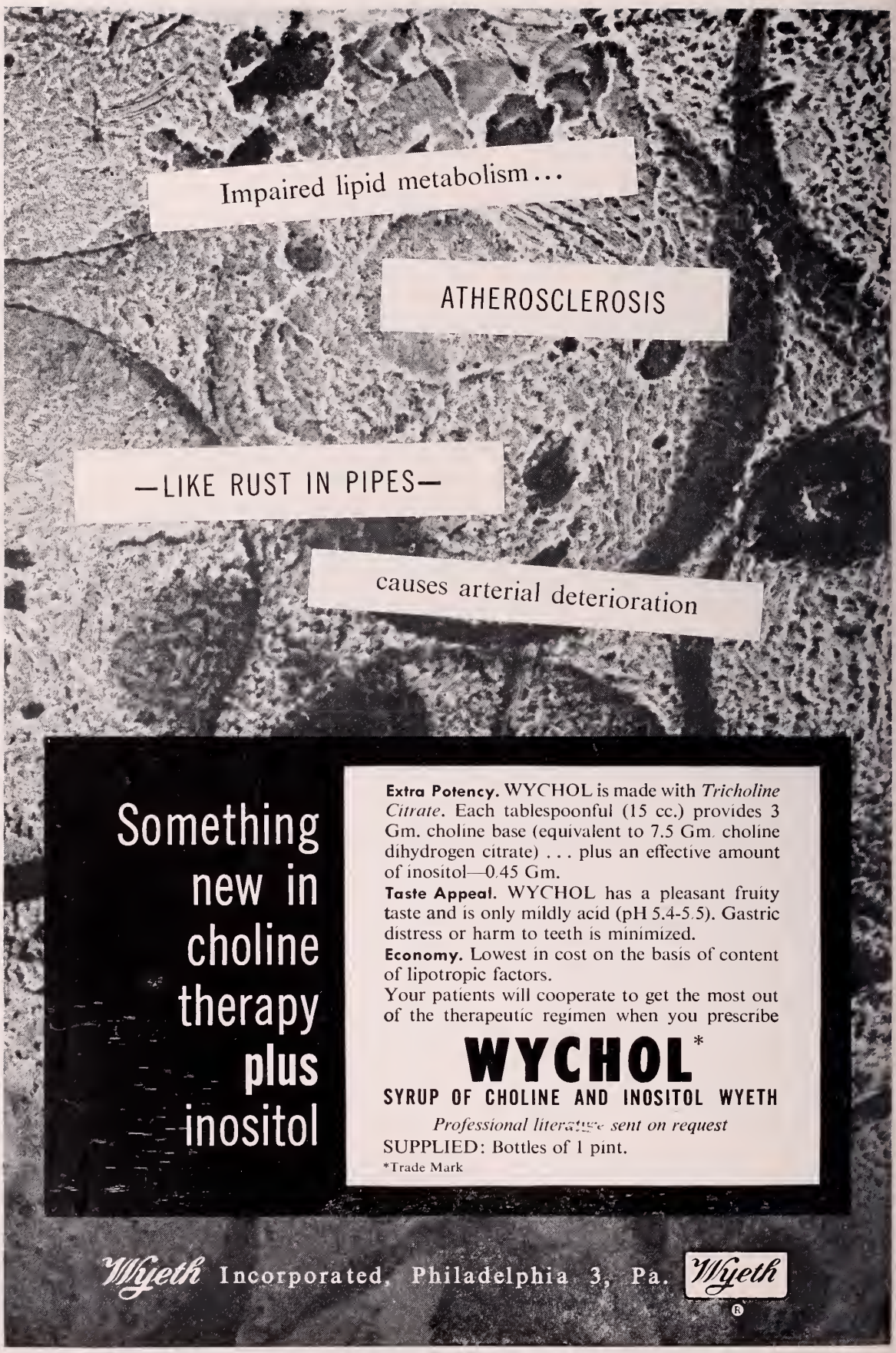
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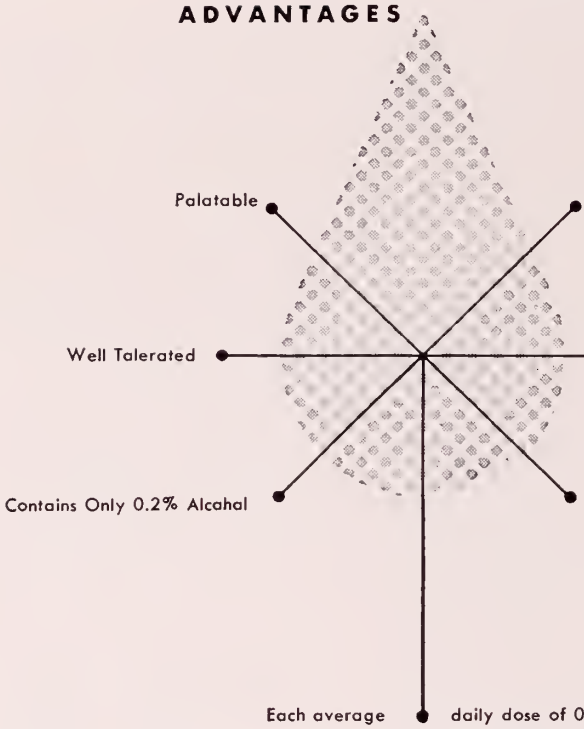
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PROGRAM OF THE ANNUAL MEETING NEW MEXICO MEDICAL SOCIETY

(Although SOUTHWESTERN MEDICINE is not the official organ of the New Mexico Medical Society, it has received from this society many contributions. The success of this publication is due in no small part to the physicians of New Mexico. SOUTHWESTERN MEDICINE urges all of its readers to make a concentrated effort to attend the annual meeting in Las Cruces. This meeting should have the support of the Southwest in general, and not be limited to any special groups. We are far from the metropolitan centers, and meetings such as this serve as our means of obtaining the viewpoints of leaders in the profession. A good attendance will insure the continuance of the fraternal spirit of the Southwest, and will tend to bring together a potent force interested in the practice of ethical medicine. SOUTHWESTERN MEDICINE wishes to make its contribution toward making the coming meeting a success and sincerely hopes that in the near future, it may have the distinction of representing officially the State Medical Association of New Mexico as well as the Southwestern Medical Association and the El Paso County Medical Society.)

WEDNESDAY, MAY 3

2:00 — 5:00 p. m.

MEETING OF NEW MEXICO HEART ASSOCIATION

AT

SUN ROOM, MILTON HALL

7:30 p. m.

COUNCIL MEETING AND DINNER

THURSDAY, MAY 4

9:00 a. m.

MEETING HOUSE OF DELEGATES

1:30 p. m.

INVOCATION:_____*Rev. Frank F. Jones*
WELCOMING ADDRESS:_____*James C. Sedgwick, M. D., Pres., Dona Ana County Medical Society*
OPENING ADDRESS:_____*I. J. Marshall, M. D., Pres., N. M. State Medical Society*

I. J. MARSHALL, M. D., *Presiding*

2:00 — 2:45 p. m.

SUBJECT: Diagnosis and Therapy of Virus and Rickettsial Infections
SPEAKER:_____*Russell J. Blattner, M. D.*

2:45 — 3:00 p. m.

DISCUSSION AND QUESTIONS

3:00 — 3:15 p. m.

RECESS TO VISIT EXHIBITS

3:15 — 4:00 p. m.

SUBJECT: Benign Lesions of the Breast
SPEAKER:_____*Nathan A. Womack, M. D.*

4:00 — 4:15 p. m.

DISCUSSION AND QUESTIONS

4:15 — 5:00 p. m.

SUBJECT: Alcoholism — Problems of Treatment and Research
SPEAKER:_____*Allen J. Enelow, M. D.*

5:00 — 5:15 p. m.

DISCUSSION AND QUESTIONS

8:00 p. m.

SMOKER
Las Cruces Country Club
(Food and Refreshments)

All lectures will be held in the Sun Room, Milton Hall, New Mexico A. & M. College

FRIDAY (MORNING) MAY 5

J. W. Hannett, M. D., *Presiding*

9:00 — 9:45 a. m.

Subject: Moot Issues in Gynecology
Speaker: *Willard R. Cooke, M. D.*

9:45 — 10:00 a. m.
Discussion and Questions

10:00 — 10:45 a. m.

Subject: The Significance of Pain
Speaker: *Henry M. Winans, M. D.*

10:45 — 11:00 a. m.
Discussion and Questions

11:00 — 11:15 a. m.
Recess to Visit Exhibits

11:15 a. m. — Noon

Subject: Treatment of Ruptured Intervertebral Discs
Speaker: *James Spencer Speed, M. D.*

12:00 — 12:15 p. m.
Discussion and Questions

12:30 p. m.

LUNCHEON

Milton Hall

Medical: C. Pardue Bunch, M. D., *Presiding,*
Drs. Blattner, Enelow, Winans
Surgical: R. E. Watts, M. D., *Presiding,*
Drs. Cooke, Speed, Womack

FRIDAY (AFTERNOON) MAY 5

John Conway, M. D., *Presiding*

2:00 — 2:45 p. m.

Subject: A Psychiatric Viewpoint in the Practice of Medicine
Speaker: *Allen J. Enelow, M. D.*

2:45 — 3:00 p. m.
Discussion and Questions

3:00 — 3:45 p. m.

Subject: Surgical Treatment of Peptic Ulcer
Speaker: *Nathan A. Womack, M. D.*

3:45 — 4:00 p. m.
Discussion and Questions

4:00 — 4:15 p. m.
Recess to Visit Exhibits

4:15 — 5:00 p. m.

Subject: Meningitis
Speaker: *Russell J. Blattner, M. D.*

5:00 — 5:15 p. m.
Discussion and Questions

6:30 — 7:30 p. m.

COCKTAILS FOR DOCTORS AND THEIR LADIES
Elks Club, Las Cruces, N. M.

(Compliments of New Mexico Pharmaceutical Assn.)

7:30 p. m.

BANQUET FOR DOCTORS AND THEIR LADIES
Elks Club, Las Cruces, N. M.

"SOCIALIZED MEDICINE IN ENGLAND"——*Ralph Jocelyn Gampell, M. D.*
ENTERTAINMENT:——*Las Cruces Lions Club Sympathy Orchestra*

SATURDAY (MORNING) MAY 6

H. L. JANUARY, M. D., *Presiding*

9:00 — 9:45 a. m.

SUBJECT: Surgical Treatment of Difficult Nonunions of Long Bones by Means of Bone Grafts
SPEAKER:——*James Spencer Speed, M. D.*

9:45 — 10:00 a. m.

DISCUSSION AND QUESTIONS

10:00 — 10:45 a. m.

SUBJECT: Who Has Heart Disease?
SPEAKER:——*Henry M. Winans*

10:45 — 11:00 a. m.

DISCUSSION AND QUESTIONS

11:00 — 11:45 a. m.

RECESS TO VISIT EXHIBITS

11:15 a. m. — Noon

SUBJECT: Dystocia
SPEAKER:——*Willard H. Cooke, M. D.*

Noon — 12:15 p. m.

DISCUSSION AND QUESTIONS

LADIES ENTERTAINMENT

THURSDAY, MAY 4

7:00 p. m.

Barbecue Supper at home of Dr. and Mrs. J. C. Sedgwick, 1401 N. Alameda

---

FRIDAY, MAY 5

Noon

Luncheon and Organization of N. M. Medical Society Auxiliary at Amador Hotel

6:30 — 7:30 p. m.

Cocktails at Las Cruces Elks Club

7:30 p. m.

Banquet at Las Cruces Elks Club

SATURDAY, MAY 6

10:00 a. m.

Coffee at Amador Hotel

NEW MEXICO MEDICAL SOCIETY

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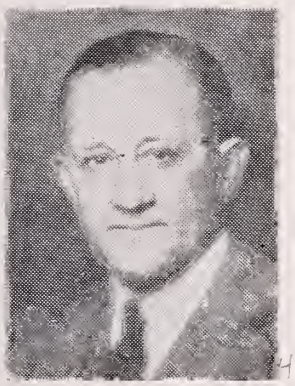
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A. S. LATHROP, M. D., Santa Fe
C. H. GELLENTHIEN, M. D., Valmora

GUEST SPEAKERS AT NEW MEXICO SOCIETY MEETING



JAMES SPENCER SPEED, M. D.,

Chief Surgeon, Campbell Clinic, Memphis, Tennessee.



WILLARD R. COOKE, M. D.,

Professor of Obstetrics and Gynecology, The University of Texas School of Medicine, Galveston, Texas.



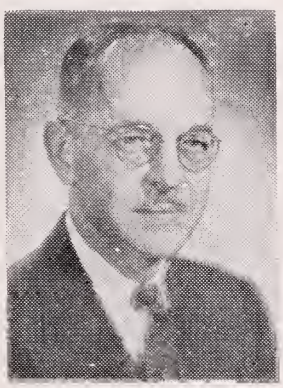
RUSSELL J. BLATTNER, M. D.,

Professor of Pediatrics, Baylor University College of Medicine, Houston, Texas.



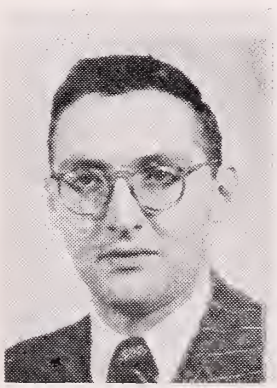
RALPH JOCELYN GAMPELL, M. D.,

Interne, St. Joseph's Hospital, San Francisco, Calif. Speaker, on "Socialized Medicine in England"



HENRY M. WINANS, M. D.,

Professor of Medicine, Southwestern Medical College of The University of Texas, Dallas, Texas. Chief of the Medical Service, Baylor University Hospital.



ALLEN J. ENELOW, M. D.,

Member of Faculty, Menninger School of Psychiatry, Topeka, Kansas. Member of Psychiatric Staff, Winter VA Hospital, Topeka, Kansas.



NATHAN A. WOMACK, M. D.,

Professor of Surgery, University Hospitals, The State University of Iowa, Iowa City, Iowa.

EXHIBITORS AT ANNUAL MEETING

Requests for display space at the New Mexico Medical Society meeting at Las Cruces, N. M., May 4 - 6, were still being made as the May edition of SOUTHWESTERN MEDICINE went to press.

Dr. A. D. Maddox, Las Cruces, in charge of displays, reported that the following firms and organizations will have displays.

Included are the following:

New Mexico Physician's Service, Albuquerque, N. M.
Lakeside Laboratories, Milwaukee, Wis.
Allied Medical Supply, Albuquerque, N. M.
New Mexico Pharmaceutical Co., Albuquerque, N. M.
Chicago Pharmaceutical Co., Chicago, Ill.
M and R Dietetic Laboratories, Columbus, Ohio.
Carrie Tingley Hospital, Hot Springs, N. M.
Pyramid Rubber Co., Ravenna, Ohio.
Winthrop-Stern, New York City.
Lederle Laboratories, New York City.
Southwestern Surgical Supply, El Paso, Tex.
National Foundation for Infantile Paralysis, Albuquerque, N. M.
E. R. Squibb and Sons, Long Island City, N. Y.
G. D. Searle and Co., Chicago, Ill.
Mead Johnson and Co., Evansville, Ind.
Eli Lilly and Co., Indianapolis, Ind.
Sandoz Chemical Works, Inc., San Francisco, Calif.
Mission Pharmacal Co., San Antonio, Tex.
Ayerst, McKenna and Harrison Limited, New York City.

Multiple Sclerosis

A survey on multiple sclerosis is being conducted in New Orleans and vicinity by the Department of Tropical Medicine and Public Health in cooperation with the National Multiple Sclerosis Society. A preliminary report indicates that approximately ten new cases of multiple sclerosis occurred in the New Orleans area each year during the past decade. A total of 145 cases were reported. The disease occurred with approximately equal frequency in males and females, while about one fifth of the cases were in Negroes. The first symptoms were noted most frequently during the fourth decade of life, one half of the patients developing the disease between the ages of 20 and 49. Moderate to marked disability was noted in over half of the patients when last seen by a physician, while 31 of the 145 patients had died. Similar surveys in San Francisco and Denver indicate a somewhat higher incidence of multiple sclerosis than was observed in New Orleans.

Vitamin B12

Vitamin B12 is administered by the intramuscular route. In conformity with the experience in treating pernicious anemia with liver, it has also been found in the case of vitamin B12 that the dose may vary greatly from patient to patient. Data from clinical studies thus far reported offer a general guide to therapy in that 15 micrograms of vitamin B12 produce substantially the same clinical response as 15 injectable units of standard liver extract.

Suggested average dosage for patients with pernicious anemia in relapse is 15 micrograms once or twice per week until remission occurs. Larger doses, 30 micrograms once or twice weekly, may be given in severe cases, especially when neurologic manifestations are present.

Dr. Elwyn T. Butterfield

ELWYN T. BUTTERFIELD, M. D., Las Vegas, New Mexico, died in his sleep January 22, 1950. Dr. Butterfield was born January 5, 1910, in Dallas Center, Iowa, and was graduated from the State University of Iowa Medical School in 1937. He did postgraduate work at Tulane Medical School, 1942-44, and was a specialist certified by the American Board of Ophthalmology.

Las Vegas County Medical Society paid the following tribute to Dr. Butterfield: "The Las Vegas Medical Society lost one of its most valued members in the passing of Doctor Elwyn T. Butterfield. His professional ability in his chosen specialty was of the highest degree and acknowledged by all of us. His never-failing aid and cheerful cooperation with us and our patients was a great source of comfort which we learned to depend upon. The sincere and serious study and effort that he gave to every problem entrusted to him and his desire to do his best for each patient exemplified the highest ideals of our profession. The spirit that prompted him to want to help all those who sought his skillful services often overtaxed his physical capacity and undoubtedly directly contributed to his untimely end. We feel that in his passing the community, as well as the medical group, has sustained an almost irreplaceable loss and it is to be deeply regretted."

Dr. Wallace P. Martin

WALLACE P. MARTIN, M. D., Clovis, New Mexico, died of a coronary occlusion March 16, 1950, in San Antonio, Texas. Dr. Martin was attending a conference of Army advisory committee chairmen in San Antonio at the time of his death.

Dr. Martin was born in 1886, and attended the College of Physicians and Surgeons, Los Angeles, where he was graduated in 1915.

A colonel in the New Mexico National Guard, Dr. Martin was New Mexico's state medical examiner for the National Guard, and an assitant to the state health officer.

Dr. Martin was president of the New Mexico Medical Society in 1942-43, a past commander of the State American Legion and of the Clovis Post, and at the time of his death he was secretary-treasurer of Curry-Roosevelt County Medical Society.

Personal Nutritional Survey Record

The provision of proper diet and dietary supplements depends upon the diagnosis of malnutrition. A general survey of method of malnutrition diagnosis is given herewith. In this connection, it is wise to remember that most men of sixty have from one to six or more diseases or deficiences in some form or degree and yet may claim to be in fairly good health, only "just getting old." The imperfections and scars of a lifetime fight against wear and illness must be reckoned with.

Generalized dietary standards are essentially theoretical and never must be used as a prescription for any one individual, but only as an essential guide and point of departure. We can give no wholesale prescription to be used blindly by any man of sixty. The individual must be examined, tested, and known before his nutritional needs are determined. The best service combines nutrition with all other forms of medical care and health guidance, and the results often are surprisingly satisfactory. But the nutritional survey of the man of sixty takes time, work, insight, science, and good clinical sense.

De Rebus Medicis Et Politicis

BY ROBERT B. HOMAN, JR., M. D., EL PASO, TEXAS
MEMBER OF THE HOUSE OF DELEGATES OF THE AMERICAN MEDICAL ASSOCIATION

USE AND MISUSE

The phenomenal growth of hospitalization insurance plans in this country has been a powerful argument against the necessity for government intervention in medical care for the individual American. There are now some 65,000,000 people covered for a good part of their hospital expenses, and the enrollment continues rapid. Voluntary non-profit companies, such as Blue Cross, and various commercial companies, are competing with each other in the American way to try to provide the greatest coverage at the lowest possible cost to the insured.

It must be remembered that, like deductible automobile collision insurance, hospital policies are designed to carry only the greatest part of the hospital bill and particularly the extreme medical emergency. A policy designed to pay the full hospital bill in all cases would be too expensive for the average family. It would be priced out of its field of real usefulness and necessity.

The period of hospitalization provided in any one year to the insured is limited for the same reason. Similarly, there are limits to payments for certain services, as well as daily room charges. While some companies have no limit on charges for drugs, dressings, oxygen, etc., most companies place limits on the amount to be paid for these items. These limits and special restrictions are the source of a great deal of misunderstanding and discontent with the coverage by both the insured and the attending physician. Actual experience is the basis for these restrictions and as experience accumulates, restrictions become less stringent.

The purpose of this discourse is to point out that only by proper usage of hospitalization insurance can we keep down the premium to the individual family. It is in the interest of the insured patient, the doctor, and the hospital that coverage be available at as cheap a rate as possible. Insurance is simply the voluntary "pooling" of funds through premiums paid into the "pool" to cover medical risks. Unnecessary usage of the pooled funds causes a rise in the necessary amount to be contributed by the members of the insured group.

MISUSE OF PLAN

Misuse of the plan is exemplified by the insured who demands hospitalization for "a rest", or minor illness or prolonged convalescence, just because "I have insurance and might as well use it". The attending physician can help prevent this misuse. Prolonged use of expensive drugs or antibiotics after they are no longer necessary increases the total bill immeasurably. This leads to a heavy cost to the insurance company, or if there is only limited drug coverage provided, it causes the insured to be faced with a large bill above his insurance coverage. Thus the insured patient becomes discontented with his insurance policy.

Hospitals must cooperate by keeping all charges as low as is commensurate with operation costs. Excessive charges for drugs, dressings, and incidentals must not be used to off-set low room rates in the over-all cost.

American medicine is fighting compulsory health insurance by promoting a voluntary insurance principle. The combined efforts of all medical agencies are necessary to make the voluntary program available to people at all income levels. If it becomes necessary for the government to subsidize voluntary insurance companies in order to expand the coverage, then compulsory measures will simply be coming in through the back door. Such subsidization is being advocated in Washington today. Let us not make this necessary through misuse of the present program.

Fat-Free Milk For The Elderly

"Recent studies point out that calcium requirements are greatly increased in later years. The older person needs more calcium than the young adult to maintain calcium balance. Calcium loss contributes to bone fragility. The importance of milk (as a source of both protein and calcium) for the elderly is thus once more re-emphasized. Newer knowledge of the role of protein in tissue repair (typically retarded in the aged) and in the correction and prevention of anemia, has made possible immense advances in geriatric surgery."—Dr. Edward J. Stieglitz.

The above, quoted from Dr. Stieglitz' article "Aging as a Problem of Nutrition", which appeared in the December issue of *Certified Milk*, presents irrefutable arguments for the liberal use of fat-free milk by elderly people. With reduced incomes, due to increased age, there is a tendency to consume high calorie baked goods, principally bread, in excessive amounts with the intake of calcium and protein materially below requirements at the time of life when most needed. Fat-free milk supplies these precious food elements economically and at the same time adds little to the calorie content of the general dietary.

Tetra-Ethylpyrophosphate In Myasthenia Gravis

"The actions of tetra-ethylpyrophosphate (TEPP) have been studied in three patients with myasthenia gravis.

"The drug was a completely effective substitute for prostigmin in these patients.

"In single doses. by injection, TEPP is from a third to a half as potent as prostigmin, but its action lasts about twice as long.

"TEPP is effective by mouth; 10 mg. of TEPP by mouth daily is equivalent to 100 to 150 mg. of prostigmin given by mouth.

"The maintenance dose of TEPP has ranged from 8 to 12 mg. daily, given in two or three doses by mouth.

"The central and visceral side effects of TEPP are similar to those of prostigmin. The visceral actions can be prevented with atropine." — Burgen, A. S. V., Keele, C. A., and McAlpine, D., (preliminary communication) Lancet 254:519.

THE PRACTICE OF RADIOLOGY, PATHOLOGY, AND ANESTHESIOLOGY IN THE MODERN HOSPITAL

The modern hospital must, by necessity, offer adequate facilities for radiological examination and clinical and tissue pathology. The services of well qualified specialists in anesthesia must also be available. Let us pause for a moment and consider how these three departments are going to function, from an economic standpoint. It has been the practice, especially in the East, in some of the teaching institutions, to furnish full-time men in these three lines of professional endeavor, and to derive a certain amount of income from these departments. This constitutes an infringement on the private physician upon whom the hospital is dependent to a great extent for the patient load. Frankly, when the hospital does this, it is practicing medicine. Should there be any doubt of this, one only has to quote from the **Manual of Desirable Standards for Hospital Radiological Departments,** a publication of the American College of Radiology:

"Radiology is a type of medical practice and the physician practicing radiology requires special training just as do his fellow medical and surgical specialists. His conduct shall be subject to the same principles of medical ethics (those of the American Medical Association) as govern his fellow physicians."

By the same token, pathologists and specialists in anesthesia are subject to the same principles of medical ethics as are the radiologists. When the hospital contracts for a radiologist, pays him a salary and collects from the patient the radiological fees, or from the pathologists, fees for pathological work, or the anesthesist fee, the hospital then becomes a practitioner of medicine. In order that these departments function in an ethical manner, they should be staffed by a professional man who is appointed by the medical board or, perhaps better said, by a representative group of the staff of the hospital made up of wholly professional individuals, and not laymen. Further, it should be fully understood that the practice of any of these three professions in a hospital should be essentially the same as in an office building, and again, quoting from the above publication, this thought is clearly set forth:

"The practice of radiology in a hospital is essentially the same as in an office building. Assuming that the executive medical staff of the hospital has selected the radiologist or radiologists whom they regard as the most desirable for their institution, the said radiologist or radiologists should conduct his or their practice in respect to private patients just as do his or their colleagues. It is desirable that the physician bill his private patients on his own billhead, adjusting his fees according to the ability of his patients to pay, and making his own collection arrangements. When, for purposes of convenience, the fee is collected by the hospital cashier, it shall be done on the physician's billhead or under his name in order to comply with the professional nature of the service."

It will be readily seen that some sort of arrangement must be made in order that the hospital receive just compensation for the space and its investment in the physical set-up. This has been again excellently clarified by the American College of Radiology. These concepts in turn can be applied equally with minor changes to the practice of pathology and anesthesiology in like institutions.

"The fees charged for radiological services shall be under the control of the radiologist. All systems of rebates, discounts, etc., shall be considered unethical, except that, where the patient's economic status is the determining factor, the radiologist, like his fellow physician in medicine or surgery, may waive part or all of the fee.

"In the average private hospital the most satisfactory arrangement is one in which the radiologist leases the space or space and equipment from the hospital, paying the hospital a monthly rental. The amount of the monthly rental should be determined after a fair appraisal of the cost for maintenance of the department by a cost accountant and should include every reasonable item. Provisions should be made for an amortization fund for replacement of equipment, if this is owned by the hospital. Some institutions may find it more convenient to base the hospital cost upon a patient basis. In such cases the cost per patient should be determined and the radiologist practicing in the department should pay the hospital that amount for each private patient whom he examines or treats in the department. Under either of these plans the hospital is protected against any loss, and the medical staff is permitted to carry on its practice in the most ethical and satisfactory manner for all concerned.

"If, pending the clarification of details concerning the lease agreement, it is decided by the hospital and the radiologist that a percentage arrangement should be made, such an agreement may be ethically reached. Inasmuch as a hospital is not entitled to profit from the fees earned by physicians practicing in its purlieu, it should not be the policy of the hospital to make a profit from the x-ray department. However, the hospital should receive a reasonable interest return on its investment in space and such equipment as it furnishes. The percentage division should be applied to the gross receipts of the department and not the net, as this would give prima facie evidence that the hospital was enjoying a profit from the professional services rendered by those in the department. The distribution will vary according to the nature of the institution, the amount of charity work handled, the actual cost of maintenance of the department, and other items; in the great majority of institutions, however, the hospital's cost should be defrayed with 50 percent of the gross receipts, or less.

"In a few teaching or public institutions (for example where all staff members are on a salary and such an arrangement is countenanced by the A. M. A.) it may be necessary to adopt a fixed compensation plan. This, however, is the least desirable of the three acceptable types of fiscal arrangement and provides opportunity for strife and misunderstanding between the medical staff and the hospital administration. While it may be possible in some institutions, under a salary arrangement, for the radiologist directing the department to build and maintain an outstanding department with entirely adequate service, such is actually exceptional. The department will grow more rapidly in usefulness and competency if the radiological staff is permitted to practice as private practitioners instead of as salaried employees of the hospital.

"In no instance and under no arrangement is a hospital corporation entitled to any portion of the net profits earned by the radiological staff in the practice of its profession. Under percentage and salary arrangements it is difficult to adhere strictly to this principle. Nevertheless, it can be done, and the accounts of the department should be reviewed frequently by the hospital administrator and the radiologist in order that adjustments may be made to take care of fluctuating conditions that could result in a profit or a loss to the hospital corporation. Where a percentage or salary arrangement is in use, the ac-

counts pertaining to the roentgen department should, of course, be open to members of the radiological staff at all times.

"By adopting a rental arrangement or by adhering to the principles outlined above, there should be assurance that adequate personnel, equipment, and supplies will be available in the roentgen department at all times. Professional personnel should be added to the department as rapidly as income permits or necessity requires. In the case of large and busy hospital radiological departments it will obviously be necessary for several radiologists to be on duty or on call at all times in order that adequate service may be maintained."

It can readily be understood that the fees charged for services, whether they be for services rendered by the anesthesist, the pathologist, or the radiologist, should be under the control of the physicians concerned, and not the hospital, and should be within range for the locality. It is understood that these fees may be varied according to the ability of the patient to pay. The American Medical Association takes the stand that it is unethical, for example, for a radiologist to permit a hospital to issue a fee schedule, even though he is not issuing it himself. Fee splitting is defined by the American College of Surgeons thusly:

"Fee-splitting is a transaction for financial gain practiced under contract, understanding, or by consent —silent or spoken—through which a portion of the compensating fee that a specialist or practitioner receives from a patient (presumably for his own services) is paid directly or indirectly to another individual or agent who was influential or instrumental in bringing the patient to the specialist or practitioner for operation or treatment . . . . . "

It is obvious that the professional practice by necessity must remain essentially the same, ethically, whether this practice is conducted in the hospital or in the office of the concerned physicians. Any deviation from this will ultimately bring discredit both to the hospital and the profession at large.

KEN REGAN SPEAKS FRANKLY

SOUTHWESTERN MEDICINE believes that its readers should have the opportunity of knowing how their representatives in the Congress of the United States feel regarding current investigations by the F. B. I. for alleged anti-trust violations. It is refreshing to know, in spite of the fact that there are many reasons to believe the attack on the profession in general was politically motivated, that West Texas, at least the 16th District, has a representative who can think and see clearly through smokescreens thrown up by the administration's forces in an attempt to discredit the medical profession and gain a foothold for the socialization of the practice of medicine.

The President and Secretary of the El Paso County Medical Society forwarded a resolution condemning the activities of the investigation of the Texas Medical Association by the F. B. I. to the Honorable Ken Regan. On February 2, 1950, Representative Regan asked and obtained the unanimous consent to address the House. His remarks were as follows:

SPEECH OF REP. KEN REGAN

Mr. Speaker, our country rightfully points with pride to being the healthiest nation in the world.

Our medical profession has been outstanding in research and untiring in its efforts through the recent decades in bringing about this condition, which has relieved our people of many former fatal and frequent outbreaks of smallpox, yellow fever, influenza, typhoid fever, and the many other epidemics that once decimated our people, until today we are enjoying longevity of three score years and ten that was a rare exception 50 years ago.

For the past few years, Mr. Speaker, our entire medical profession have been faced with the increasing clamor of those in our midst who, while being fortunate in sharing the freedom of our country and the many benefits and blessings that our citizenship is privileged to enjoy, are now seeking an ever-increasing service from our Government without giving anything in return, including the so-called socialized medicine proposal that would regiment our entire medical profession.

Now, Mr. Speaker, I am informed by the El Paso Medical Society of El Paso, Tex., through its president and secretary, that the Texas Medical Association is undergoing some type of investigation by the F. B. I. for alleged antitrust violations, and it is the apparent belief of many highly respected members of the medical profession that a political effort is being made to beat down opposition by the Nation's physicians to the so-called socialized-medicine proposals, to which I am thoroughly opposed as being against the welfare of our people, un-American, and a step toward the socialization of our country, which has become the greatest Nation in the world through its safeguards of freedom of our people, who in addition to their rights of freedom of religion, freedom of the press, and the many other protective provisions of individual rights, have the further freedom of selecting their own doctors, dentists, or specialists without Government interference or dictation.

Surely, Mr. Speaker, the F. B. I. who have earned, and continue to merit the respect of our people, would not lend themselves or their fine reputation to a cheap political program such as many good members of the deservedly honored medical profession have some reason to suspect.

I wish to include with these few remarks the full text of a resolution recently furnished me to which I referred to above.

The resolution:

Whereas El Paso newspaper stories report that the Texas Medical Association is currently under investigation by the FBI for antitrust violations; and

Whereas more than 20 such investigations of National and State medical societies have occurred in recent weeks; and

Whereas these investigations are no coincidence but rather a political effort to beat down opposition by the Nation's physicians to socialized medicine; and

Whereas such tactics are strongly opposed by El Paso County Medical Society as un-Texan, and un-American, and tending dangerously toward totalitarianism and police-state methods: Now, therefore, be it

Resolved, That El Paso County Medical Society herewith protests the current investigation of the Texas Medical Association and so informs the elected Senators of Texas and the Representative of the Sixteenth Congressional District of Texas.

RALPH H. HOMAN, M. D.,
President.
JOE R. FLOYD, M. D.,
Secretary.

Mr. Regan recognizes that it is the duty of the Congress of the United States to safeguard the freedom of the people, and not to jeopardize that freedom by any socialistic plan which inhibits the right of the individual. It might be well for the medical profession to contact their various representatives and obtain from them the statement similar to the one Ken Regan has so willingly and clearly given. By this method the public could well understand exactly where those that are elected to high office stand as regards socialization in general.

PRACTICAL OBSTETRIC ROENTGENOGRAPHY

By Paul C. Swenson, M. D., Arnold Goldberger, M. D., and Hugh A. O'Neill, M. D.,
Jefferson Medical College Hospital, Philadelphia, Pa.*

This discussion will deal with the use of Roentgen procedures at the time of labor. It will omit any mention of the standard Roentgen procedures in obstetrics that have to deal with the actual diagnosis of pregnancy, the demonstration of the placenta, fetal anomalies, monstrosities, etc. We are more concerned regarding just what emphasis and reliance can now be placed upon the use of the x-ray at the time of labor and just what is the value of pelvimetry and pelviography based on our present knowledge.

The idea of using the x-ray for pelvimetry is almost as old as Roentgenology itself, for it wasn't long after the discovery of the Roentgen ray that it was realized that there was a possibility of getting internal measurements far more accurate than the external measurements. Thus was Roentgen pelvimetry born and various methods have since been described for the measurement of the pelvis and fetus since these early days of Roentgen diagnosis.

DIFFERENT METHODS

Within the last 20 years about 100 different methods of Roentgen pelvimetry have been described. The first was apparently reported by Pfahler in 1901 (1). A little later, in 1907, the British Medical Journal carried a report by J. B. Riddell on a method of pelvimetric procedure (2). Even at this writing a new method of pelvimetry has just been described on one of our recent radiologic programs (3). All methods of measurements are based on the principle of correcting for magnified distortion of the x-ray image, either by comparison with an image of known size or by geometric calculation (stereoscopic phantom image, triangulation and parallax).

POPULARITY WANED

For a time the popularity of x-ray pelvimetry waned because of the supposed danger therefrom to the gonads of the fetus and mother. Following the work of Caldwell and Moloy (4 and 5) and others, however, there was a revival of interest. It was shown at that time that no more harm was done by the exposure necessary for pelvimetry than resulted from the usual gastro-intestinal or abdominal examination. We do not mean to minimize the possible harm from any or all radiation unnecessarily absorbed, but the possible harm done by Roentgen pelvimetry is no greater than that done by the other procedures.

Doctor W. F. Mengert (6) calls attention to five components of cephalo-pelvic disproportion, only one of which could be reduced to "mathematic exactitude". He emphasizes that, although the size and shape of the bony pelvis is the major component in cephalo-

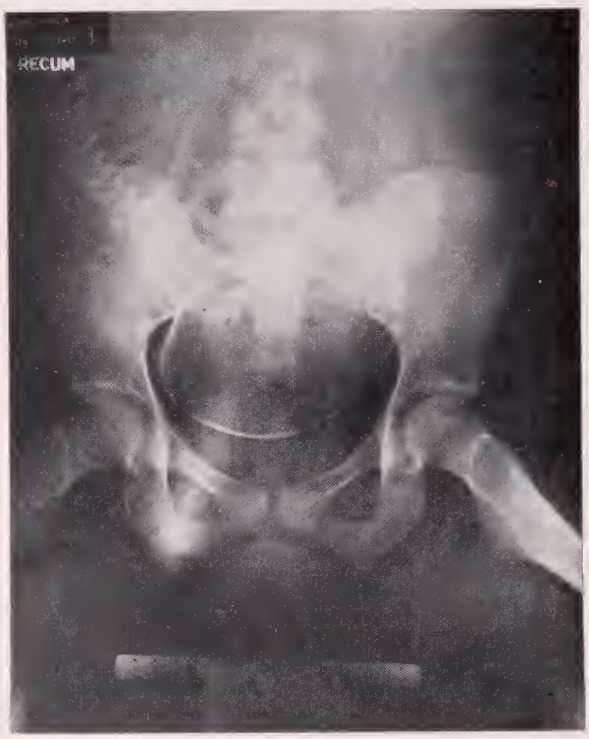


FIGURE 1. *Normal pelvis, average size baby, well formed pelvis. A.P. diameter of 12 cm. Transverse diameter of 13 cm.*

a. One of a stereoscopic pair of A.P. films showing the Colcher Sussman rule in place.



FIGURE 1, *b. An erect lateral film showing the head adaption to the inlet in the lateral view.*

*This paper presented before International Post-Graduate Medical Assembly, January 1949.

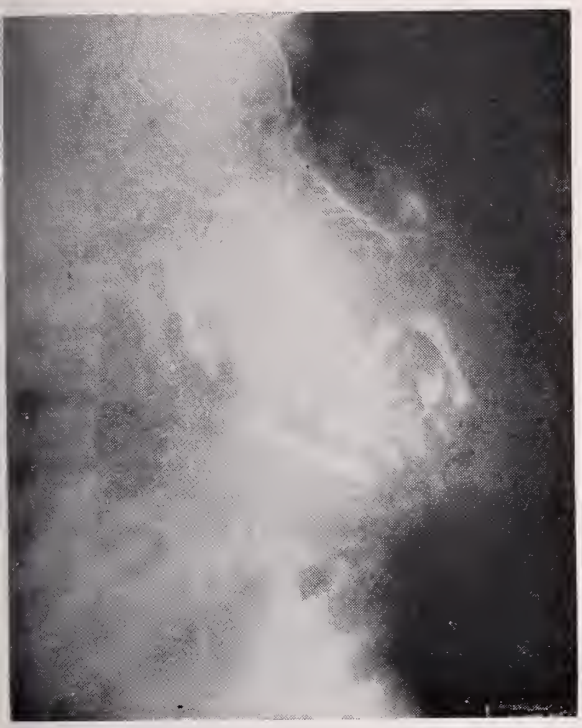


FIGURE 1, *c. A recumbent lateral film for study of the soft parts and fetal skeleton.*



FIGURE 2. *Breech Position. A high lateral film of the abdomen with the Colcher Sussman rule in place for measurement of the fetal head. The rule is placed in the approximate plane of the head by palpation.*

pelvic disproportion, yet other imponderables, namely the force of labor, the moldability and size of the fetal head, and method of presentation are so important in the conduct of the delivery that they make any determination of the first component of little or no importance unless one has a knowledge of the others along with it. It is obvious, therefore, that the problem of cephalo-pelvic disproportion and adequate fetal-pelvic measurements must be considered in terms of a philosophic approach rather than a scientifically accurate procedure.

USE OF X-RAY

It is now generally conceded that good, modern scientific obstetrics should not be practiced without the availability of the aid of the x-ray. Clinical measurements and external pelvimetry are still part of our basic technique, but actually have a limited use these days because we know that we can gain more information by x-ray methods in the doubtful or borderline case. There is a wide discrepancy between the crudeness and rough approximation of office pelvimetry and the accuracy of the present Roentgen examination. Even the one clinical sign considered to be of great value in the estimate of cephalo-pelvic

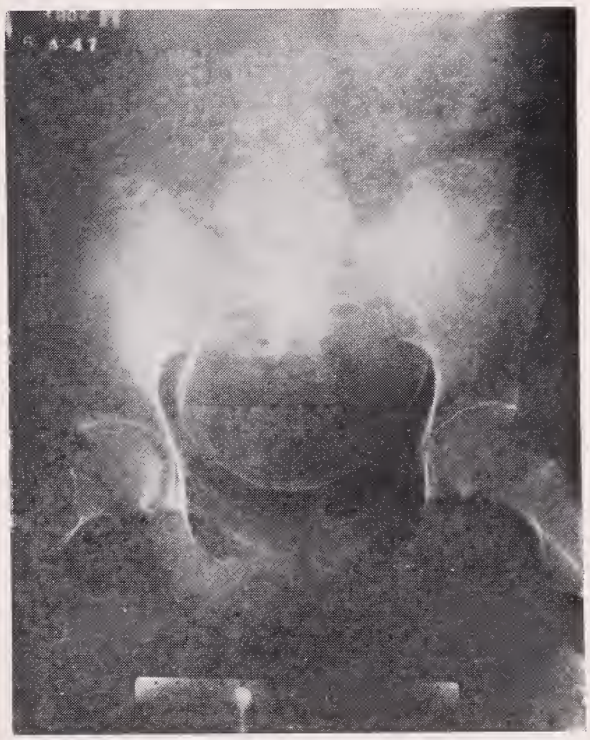


FIGURE 3. *A tight fit. A twenty-four-year-old colored girl, gravida 1 was referred to the x-ray department because the head was floating after eight hours of labor. The average measurements of the pelvic inlet showed an A.P. diameter of 10 centimeters and a 12 to 12½ centimeter transverse diameter. The patient delivered spontaneously after 12 hours of hard labor which resulted in marked molding of the head. A definite borderline pelvis.*

a. An A.P. film of the abdomen and pelvis, one of a stereoscopic pair.

disproportion, that of noting the relationship of the head to the inlet, may be misleading. The infant's head may seem fixed in the inlet at or approaching term, yet disproportion may exist with resulting dystocia. This is because we may not be cognizant of the narrow diameters below in the mid pelvis and outlet. Conversely, a "floating head" in a primiparous patient which ordinarily does not have a favorable prognosis may not be a disproportion clinically and may eventually enter the pelvis without difficulty with the onset of active labor.

OPPOSITION

Eller and Mengert, writing in 1947 (7) discuss the unfortunate indifference and antagonism to Roentgen-



FIGURE 3, *b. An erect lateral film.*

ographic pelvimetry in certain quarters. The two chief reasons they cite are: 1. Technical difficulties involved when using certain methods currently in general use, and 2. The fact that Roentgenologists have often invaded the domain of obstetrics unjustifiably and rendered opinions including prognosis, ignoring at the same time variable factors of size, malleability of the fetal head, etc. They go on to say that these objections were minimized by a method of pelvimetry which they came to use and which is quite simple and easily applicable. They further go on to say that the second objection was overcome by putting the problem of interpretation of the films in the hands of the obstetrician **where it belongs.**

This last statement deserves some comment, inasmuch as I am speaking from the standpoint of a radiologist. What the above authors say is perfectly true. The Roentgenologist's interpretation of the obstetric pelvis will have limited value if his knowledge of the physiologic mechanism and pathology of labor is not adequate. A clinical appreciation is necessary for all forms of Roentgen diagnosis, but particularly in the case of pelviography and cephalography. There may be some radiologists not well grounded or interested enough in the obstetric aspect of radiology to be good consultants.

CONSULTATION

We disagree with Eller and Mengert to this extent, however, that under certain circumstances there is actually a need for a good radiologic consultant. Even though ideally the interpretation belongs in the hands of the obstetrician in the majority of cases, there may be other instances where there is no other possible means of adequate interpretation.

We have always warned that the obstetrician should be in constant consultation with the radiologist and that the radiologist must not render a clinical prog-



FIGURE 4. *Absolute disproportion. A 20-year-old colored patient at term referred to the x-ray department because the presenting part was overriding the symphysis on clinical examination. A bony disproportion was recognized and a section advised. The comparison of head size to pelvic size in the erect lateral was sufficient for the diagnosis.*

a. A.P. film of the abdomen and pelvis, one of a stereoscopic pair.

nosis unless he is in consultation with the obstetrician. He should be fairly objective in his findings; otherwise, he will entirely mislead rather than help. He does, nevertheless, have one very important function, i. e., that of keeping the clinician from reading things into the x-ray findings. As is necessary in all other procedures of radiology, he stands watch to prevent exploitation of the x-ray findings. In the small clinic or in private practice, one must be concerned about the obstetrician who may not be too scrupulous and who may refer a case to the radiologist purely for reasons of justifying operative procedure. This the

radiologist can forestall. He can prevent wishful thinking which may influence the obstetrician's report in this respect, and thus prevent unnecessary cesarean section.

INTERPRETATION

In a large institution where it is possible for the radiologist to surrender the job of interpretation entirely to the obstetrician, the situation will be quite different, but there will still be times when the radiologist will actually know more than the referring obstetrician. He will actually have to take over the job of a teacher, if for no other reason than to try to correct the mistaken general impression that the x-ray examination is a panacea.

We believe that the x-ray might be employed prophylactically in obstetrics. Ideally, routine studies of every primipara might well be done and examination in multipara where deviations from the usual are expected, such as abnormalities of presentation, etc. In the most carefully performed abdominal examinations of late pregnancy so important a condition as breech presentation — a treacherous problem in labor in the most skilled hands — is frequently overlooked. Other suspected findings are revealed to the obstetrician in the advance of labor and when forewarned, he may be better prepared to manage them. Soft tissue technique today enables one to ascertain the placental site in a large percentage of the cases. So vitally important a diagnostic aid should not be denied any patient for solely economic reasons. Examination of the pelvis for these diagnostic points alone, aside from pelvimetry makes it of real value. Toms (8) advocates x-ray pelvimetry as routine as a blood count and it is now economically possible to have Roentgenograms whenever necessary.

No one method of x-ray study is perfectly satisfactory. Some are of more value than others, depending upon the technical ease and accuracy. Most of the recognized methods, regardless of type, made use of an erect lateral view (9). Much knowledge is obtained by the lateral view as well as the stereoscopic views.



FIGURE 4, *b. An erect lateral film.*



FIGURE 5. *Brow presentation. A 26-year-old colored patient in active labor with pains five minutes apart for 12 hours. The head was still floating by rectal examination. Films show a brow presentation with the head extended on the spine and marked asynclitism. A section was recommended and done.*

a. An A.P. film of the abdomen and pelvis, one of a stereoscopic pair.

One should emphasize the stereoscopic study and the necessity for repetition of lateral views during labor to note the degree of progress. There are clinical evidences of lower level and pelvic outlet contractions of mild to moderate degree which may not be revealed by x-ray, simply because they are not well studied in this regard.

Moreover, one of the most important reasons for typing the pelvis has been that there usually is a higher frequency of soft tissue dystocia in the abnormal types of pelvis, that is — where there is some abnormality of shape. Even though the pelvis might be quite adequate, one is more apt to find a soft tissue dystocia occuring along with these types. The exact reason for this is not clear, but it is probably related to the endocrine background of the patient.

The obstetrician should not and must not be satisfied to accept the typed report of the radiologist. He

should study the films himself and try to interpret them in the light of his clinical knowledge, and the Roentgenologist should discuss the case with him for the same reason. Both will profit and learn. The Roentgenologist should be cautious about predicting the ease or difficulty of labor. He should remember that many unknown factors such as soft tissue conditions, maternal and fetal abnormalities, strength of contractions, moldability of the head, adaptation of the pelvis, etc., cannot be evaluated purely on this basis.

At the present time our routine technique includes stereoscopic A.P. films of the abdomen and pelvis with the patient in the supine position, an erect lateral film of the pelvis, and a recumbent lateral film of the abdominal soft parts. At times, an additional 45 degree angle view of the subpubic arch is made for further study of the outlet. The exposure factors for the routine films are as follows: Stereoscopic A. P., 66 to 78 Kv., 275 to 550 Ma. seconds, and a 36 inch target distance. The erect lateral film is made with an exposure of 70 to 80 Kv. using 350 to 700 Ma. seconds, and a 36 inch target distance. The lateral recumbent film of the abdominal soft parts is exposed at 60 to 66 Kv. using 150 to 300 Ma. seconds, and a 36 inch target distance.



FIGURE 6. *Anthropoid. A 22-year-old white patient with an anthropoid pelvis. Films show the head has adapted itself to the optimum diameter (posterior position). Labor and delivery were uneventful.*

a. An A.P. film of the abdomen and pelvis, one of a stereoscopic pair.

As a measuring device we use the practical apparatus described by Colcher and Sussman (10). This device has furnished us with almost any measurement we desire. Everything these authors have claimed for this instrument and method of measurement has been correct as far as we can determine, and for all practical purposes it is as good as any other means of obtaining pelvic measurements. From reading the literature one gets the impression that considerable time and effort have been expended to obtain meticulously accurate methods of measurements. Attempts have been made to create a "rule of thumb" procedure based purely on measurements of the various pelvic planes from which one can then determine whether or not delivery will occur vaginally. In our opinion the ability to study the pelvis classification and fetal-pelvic relationships far transcends the importance of true measurements, and it is in this particular field that x-ray is of the most value.

1500 EXAMINATIONS

In the past five years approximately 1500 examinations of the abdomen and pelvis have been made in our laboratory. The patients were referred to the x-ray department for examination because the clinician suspected some disproportion based on external measurements or because of a past history of dystocia, and there were a few instances of a routine examination only. The most important single bit of information given the clinician was the negative evidence obtained in 75 percent of the patients. The remaining 25 percent showed some peculiarity of shape or size of the maternal pelvis and, for the most part, these were of the borderline type. In none of the borderline cases did measurements per se play a part in determining whether operative delivery should or should not be made. In those cases where some slight disproportion existed, we were unable to predict from measurements alone whether labor would be particularly difficult. Often those which appeared most hazardous from the standpoint of mensuration gave



FIGURE 6, *b. An erect lateral film.*

the easiest delivery since the efficiency of the forces of labor and moldability of the head cannot be predetermined.

During a representative two-year period of 1946 and 1947 there were 4074 deliveries done at Jefferson Hospital, combining the figures of both clinic and private services. During this time there was an overall cesarean section rate for all reasons of 4.4 percent. There were 54 sections done because of cephalopelvic disproportion on the ward service. In this group of 54 cases, there were four which might be considered to show absolute disproportion. The others were all to be considered borderline; that is to say, they were cases where, using the criterion of Standler (11) or Mengert (6), the inlet or mid plane capacity was definitely 85 percent or less of the usual normal capacity as they have outlined it. It is quite probable that a number of these might have delivered, were they allowed to go on in labor. Moreover, there was perhaps more than the factor of size alone which played a part. The pelvic shape might have been abnormal. It is quite obvious that a small gynecoid pelvis is much more favorable for vaginal delivery than a small android pelvis. When the shape is bad, in spite of borderline capacity, one doesn't always wait as long with a trial labor. Further, certain anthropologic types are more prone to be associated with uterine inertia and other factors which effect normal delivery.

SECTION RATE

We also find, as did Mengert (6), that the mid pelvic plane was rarely large if the inlet plane was not adequate, and very often the inlet plane was large when a funneling was present at the level of the mid pelvis. Some of these cases might have been given a longer trial of labor where the size was adequate, but in several instances the head, when measured, seemed large and it thus seemed best to do a section. One might argue that, if there is ever any chance of disproportion in an otherwise abnormal case or in a relatively old primipara or "endocrine type", one should not take a chance on having any fetal injury supervene and do an elective section immediately. It is of interest in this connection, however, that our pelvimetric methods have not increased the section rate at our institution.

It has become increasingly evident that the mid pelvic capacity is the most important one to observe in pelvimetric measurements. By the same token, it is sometimes very difficult to evaluate it as accurately as one should. I believe that the stereoscopic examination will help one appreciate the convergence of the side walls in a narrow postero-anterior pelvic capacity at the level of the spines more than in any other procedure. It is, however, difficult to make a definite correlation of the posterior sagittal and bi-ischial measurements. It has been suggested that if the sum total of these two is under 13.5 cm. there may be trouble (12). This we have found to be unreliable. The outcome of delivery depends on so many other factors which we are unable to measure by the x-ray procedure, that no matter how accurate, they do not tell the whole story.

SUMMARY

Roentgen study of the abdomen and pelvis at the time of labor is to be considered an established procedure in cases where there may be a doubt about the pelvic size and shape and fetal pelvic relationship from the clinical examination. Ideally, it might be used as a routine prenatal study in the last three or four weeks of pregnancy. If a careful and reasonable use is made with the proper emphasis upon the individual case, pelviography can then be considered as a most valuable and almost indispensable adjunct to the proper management of the parturient.

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Intrinsic Dangers

Intrinsic dangers to the respiratory and upper digestive tracts are very prominently headed by the group of symptoms sometimes called "the allergic state". Most of us, fortunately enough, are immune to this sensitivity, which plagues so many and causes an inrush of histamin into their swollen epidermal and mucosal cells. In some people allergic sensitization shows up in earliest babyhood; in others it depends on season or location, or it may arrive late in life. Every type of allergen, from sudden heat or cold to specific pollens, bacterial or mycotic toxins, foods and all the others, may in susceptible individuals shut up nasal passages, set up local eczematous irritation about the mouth, nose and eyes, or create asthmatic disturbances leading to eventual atelectasis or bronchiectasis. Serious damage to the nasal mucosa from excessive use of shrinking agents has become commonplace; and very great damage to the lungs and heart has been reported from the use of inhalers charged with excessively strong epinephrine.

Intra-Arterial Transfusion

"*Indications.* Administration of blood by [the intra-arterial] method is indicated primarily in the treatment of shock resulting from a rapid decrease in blood volume, severe traumatic shock which fails to respond adequately to conventional therapy, exsanguination in obstetric emergencies, intra-abdominal and intrathoracic hemorrhage. Anesthetic emergencies and asphyxia may also respond to intra-arterial transfusion. . . . ."

"*Contraindications.* Intra-arterial transfusion involves the sacrifice of an artery, and is a procedure which should be reserved for extreme emergencies after conventional methods of therapy have failed to effect a satisfactory response. . . . The wisdom of an intra-arterial transfusion in the presence of heart disease or heart failure is debatable." — Robertson, R. L., Trincher, I. H., and Dennis E. W., *Surg.,Gyn&Obs.* 87:695, 1948.

COLORFUL LAS CRUCES SITE OF CONVENTION

A one-time camp site along the Rio Grande for early American explorers, Las Cruces has capitalized on its history, folklore, climate and location until today it is a modern city of over 15,000 people situated at the junction of U. S. Highways 70, 80 and 85.

Mild climate, beneficial desert air and the amazing productivity of the surrounding Mesilla Valley have accounted in a large part for its phenomenal growth.

Although believed to have been a camping ground for the earliest inhabitants of the area, it remained for Spanish explorers in the 16th Century to fully recognize the importance of Las Cruces' location. It was the gateway to the easy trail through the mountains formed by the Rio Grande. The lush valley growth and the river's water provided forage for both beast and humans.

The Spaniards made it their most important camp site, but the wily Apaches soon found it an ideal place for their massacres. Party after party of Spaniards lost their lives there and the crosses marking their graves gave the place its present name of "The Crosses" or as in Spanish, "Las Cruces."

In 1540 Coronado and his intrepid conquistadors searched for gold in the mountains near Las Cruces. Their mines have since been lost, but stories of their whereabouts still circulate freely throughout the area.

Old Mesilla, three miles away, was the scene of the consumation of the Gadsden Purchase in 1853. Mesilla was also a hangout for Billy the Kid, and many of his relics are now on display at La Posta Cafe in the romantic little village.

The Indian village of Tortugas, where once a year natives climb the mountain, El Cerro, barefoot to atone for their sins is within a stone's throw of Las Cruces. Just north of the city are the ruins of Fort Seldon where General Douglas MacArthur made his first strategic retreat at the age of five. Also nearby are ruins of the Shalam Colony, an elaborate set of edificies dating back to the 1880's, where sin was to be overcome through the joint efforts of a mystic and a Boston importer.

At one time or another the flags of Spain, Mexico, Texas, the Confederacy and the United States have flown over the Las Cruces area. Many of the curios, relics and objects of art which have accumulated during these various periods of government are on display in the Amador Hotel in Las Cruces, a hotel founded by a pioneer land owner in 1850.

"...about 50% of the patients who consult the general practitioner have complaints for which there is no discoverable physical or organic cause"[1]

Although these patients have no apparent organic basis for their complaints, they are ill and merit attention.

In functional disorders, response to stress is effected via both branches of the autonomic nervous system. Therefore, treatment consists, where possible, in removal of the emotogenic factor (practical psychotherapy) and the "partial blockade" of the efferent autonomic pathways. The family physician is well-qualified to help these patients; his advice will do much to achieve the desired change in habits and to avoid unhealthy situations.

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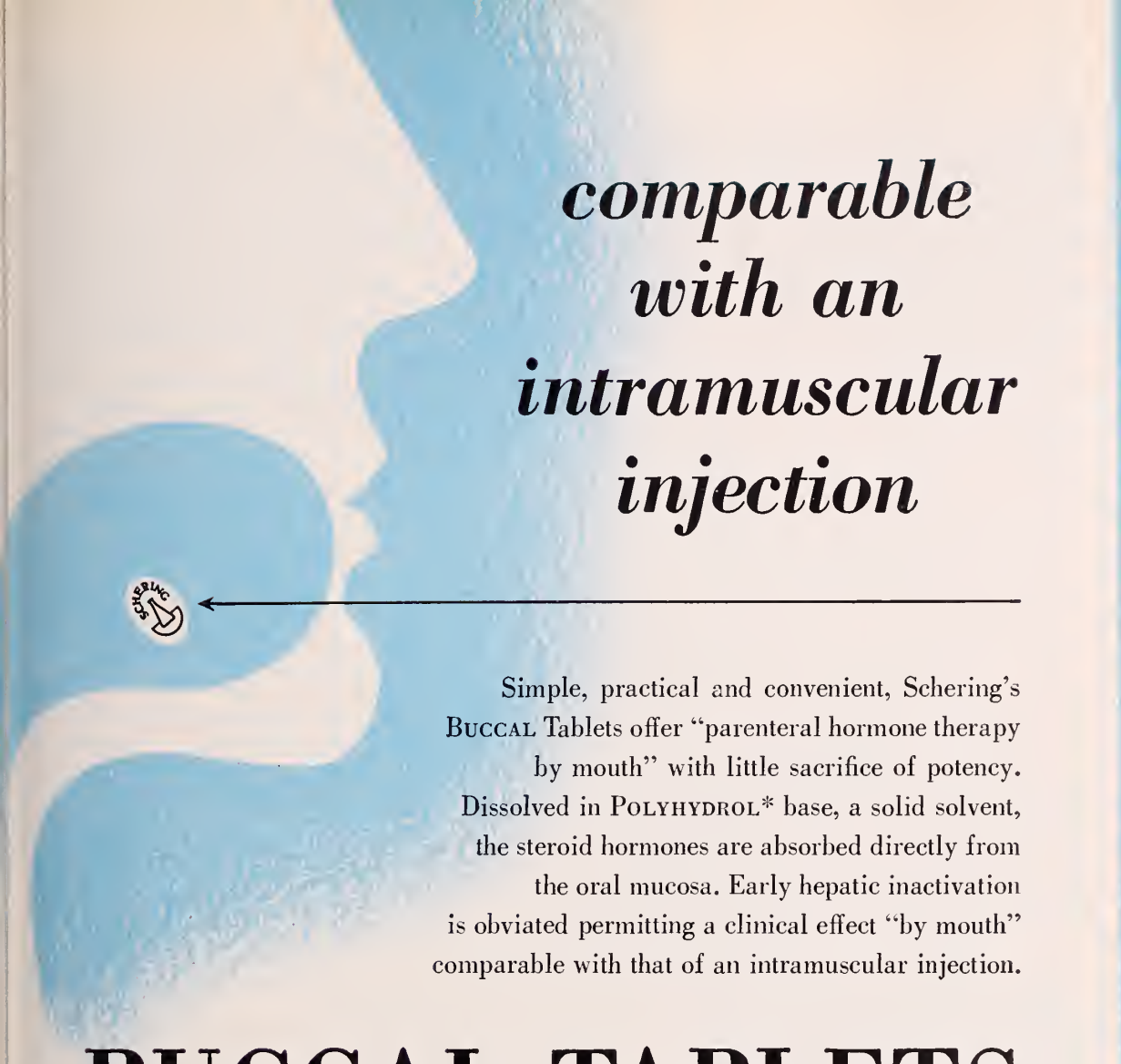
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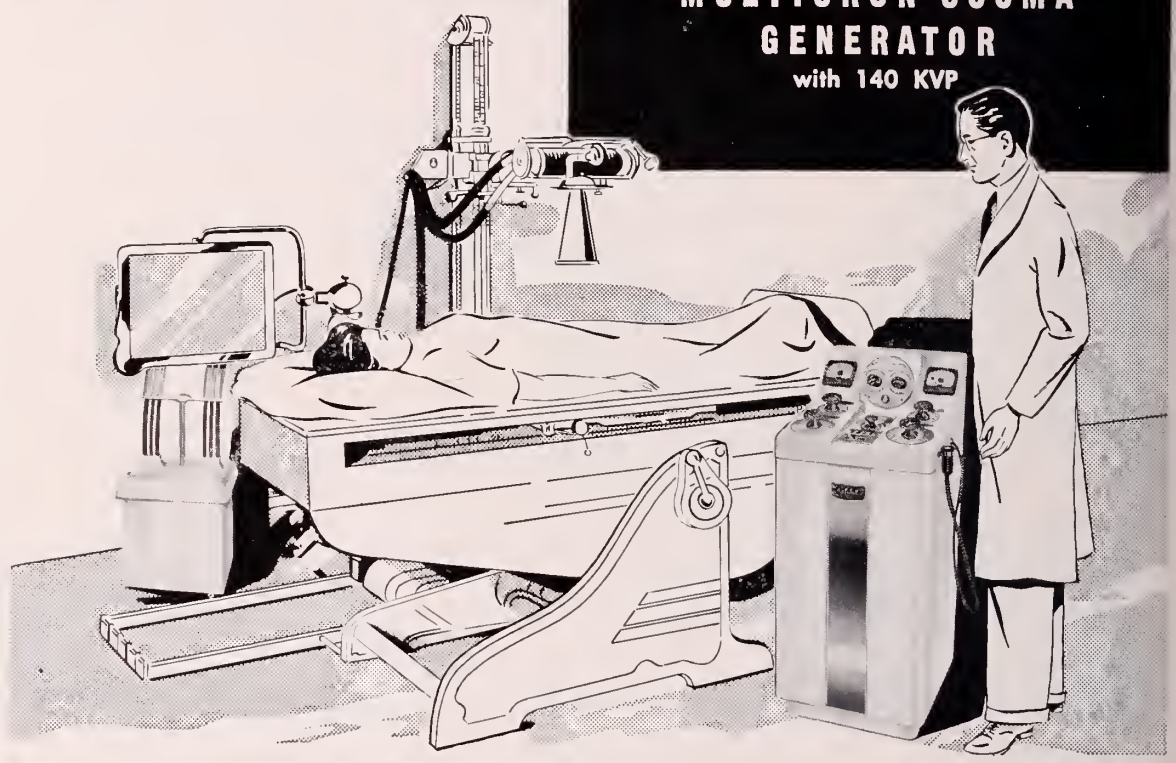
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Gray, L.: J. Clin. Endocrinol. 3:92 (Feb.) 1943.

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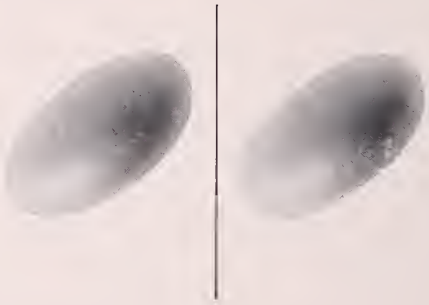
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the inside story

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THE MEDICAL PRACTICE IN MEXICO



Post-Graduate Assembly, Mexico City, August 1949, sponsored by the American College of Physicians.

SOUTHWESTERN MEDICINE values its Latin-American readers highly, and is making a concentrated effort to bring the medical thought of both Mexico and the United States more closely together. There is no essential difference between the practice of medicine in Mexico and the practice of medicine in the United States. In recent years all of us who live in the vicinity of the border have come to realize this much more distinctly; and very definite efforts are being made to knit the medical profession of these two great countries into a working unit which will maintain the great tradition of American medicine on the North American continent.

Canada has contributed much to continental medicine, and Mexico is assuming its rightful place. Those of us who have had the opportunity of collaborating with the physicians in Mexico realize more and more that their problems are our problems, and that there can be no real division.

DIFFICULTIES OVERCOME

Language difficulties have hindered the co-operation between the physicians of the two countries, but these are beginning to be overcome. Many of the practicing physicians in both countries are bilinguists; and, because of this, we are now able to present medical thought so that it can be adequately understood by all parties concerned. In this connection it is interesting to note that in all probability the most popular post-graduate course offered by the American College of Physicians is that given by the National Institute of Cardiology in Mexico City, under the direction of Dr. Chavez.

One cannot visit the Institute of Cardiology in Mexico without coming away with the feeling that physicians interested in the study of the heart, who have not visited this institution, are missing an extremely profitable opportunity to further their knowledge.

The American College of Physicians requested each member of the College participating in this post-graduate course to write his comments. It is interesting to note these comments in some detail:

COMMENTS QUOTED

Quoting from some of the reports received from those in attendance: "I spent a very profitable two weeks. The course was well-organized and well-conducted. I was very favorably impressed with the well-trained group of men there. The course gave me just what I wanted."—M.D., Tennessee. "In my opinion, it was the best course in Cardiology which it has been my privilege to attend. Its strong points were (1) the care with which the program was arranged; (2) the co-ordination between the Director and the heads of each department; and (3) the high level of instruction which each speaker maintained." —M.D., California. "A most profitable course and enjoyable vacation. The course is highly recommended, especially for catheterization technics and angiocardiography." —M.D., Texas. "The course was excellent beyond description. The courtesy of the staff and the zeal and interest of each participant has set a goal difficult to equal." M.D., New York. "The program arranged by Dr. Chavez was informative and illuminating. Not only will the scientific program be forever remembered but likewise the hospitality of the Director. May I add that the enthusiasm and good fellowship displayed by Dr. George Morris Piersol, Dr. William Dock and Dr. George C. Griffith, American College of Physicians' guests, were deeply appreciated. I wish to express due thanks to The American College of Physicians for granting such opportunities to its members."—M.D.,Pennsylvania.

ANOTHER COURSE

During the Summer in 1950 the American College of Physicians are offering another course in Mexico City. This course has to do with nutritional disease; and it is anticipated that this course will rival the scientific interest which has been aroused by the

previous courses in diseases of the cardiovascular system.

As further evidence of the closer co-operation between the Latin-American countries, and the United States, it is interesting to observe that the American College of Physicians is offering fellowships to the recent graduates of the schools in Latin-America for the purpose of acquainting these young men with research medicine as it is conducted in our country. These young men, it is hoped, will return to their respective countries and serve as teachers; thus, of course, tightly cementing the medical thought of the Americas.

With the speed of modern transportation, we are no longer a unit unto ourselves. The horse and buggy days are a relic of the dim past. We must go forward and in our progress we must share its achievements with all of our brother practitioners south of the Border.

A Clinical Study of a New Sulfonamide (NU-445) in the Treatment of Urinary Tract Infections

The effectiveness of a new sulfonamide, 3, 4-dimethyl-5-sulfanilamide-isoxazole (NU-445) was studied in 25 cases of urinary tract infections involving seven groups of pathogenic organisms. There were 18 cases with unmixed and 7 cases with mixed infections. Counting each of the offenders separately, there was a total of 33 infections, the majority of which were due to B. pyocyaneus or E. coli.

NU-445 was administered orally to all 25 patients and, in addition, eight of these subjects were treated with bladder instillations. The daily oral dose varied from 4 to 16 gm. and the average duration of treatment was 25 days. One patient received as much as 1680 gm. over a period of 140 days and the average total intake per patient was 259 gm.

Results were as follows: The infecting organisms were eradicated in 20 instances, or 60.6 per cent; NU-445 was ineffective in 10 instances, or 30.3 per cent; and results in the remaining three infections were equivocal.

The high incidence of positive responses to treatment with NU-445 in Pyocyaneus and coli infections is remarkable. The drug proved effective in cases in which sulfadiazinc and/or streptomycin had failed to eradicate these pathogens.

The good solubility of NU-445 obviates the need for concomitant alkali medication even if very large doses are administered. In nonc of the cases studied was crystalluria or hematuria observed. Similarly, there was no evidence of deposition of crystals in the urinary tract. In general, NU-445 was tolerated without serious complications. Discontinuation of treatment became necessary, however, on account of untoward effects in two instances.

The Erythrocyte Sedimentation Rate in Human Subjects Receiving Dicumarol

"Therapeutic doses of Dicumarol do not significantly influence the erythrocyte sedimentation rate in normal, ambulatory subjects.

"Therefore, the clinical value of the sedimentation rate in patients receiving Dicumarol therapeutically remains unaltered."—Hyman, J. and Harris, R., *Am. Ht.J.* 39:321, 1950.

De Rebus Medicis Et Politicis

By ROBERT B. HOMAN, JR., M. D., EL PASO, TEXAS

Member of the House of Delegates of the American Medical Association.

MEDICAL IDEOLOGY

Perhaps the greatest inheritance of the medical profession is that philosophy which provides for the free interchange of knowledge, of research, of experience, and of methods of treatment, medical, surgical, or otherwise. Among ethical physicians there are no "secret cures", patented medicines, patented appliances, in fact, **no secrets,** except the confidences of the patient, which are held inviolate. This ideology is founded on the Hippocratic Oath, and further strengthened by the Code of Ethics of the American Medical Association and by similar codes of all free medical societies.

The basic concept of medical ideology is that mankind—every living person—must have the benefit of the combined knowledge and experience of every physician. A second concept of this sacred philosophy is that each physician must be his brother's teacher. A third concept is that the financial welfare of the physician is entirely secondary to the medical welfare of his patients.

JAUNDICED EYE

It is sometimes difficult for the laymen, in this highly industrialized and competitive world, to grasp the significance of our medical ideology. The jaundiced eye of competition blinds him to the fact that this ethical behavior of a profession can, and does exist.

The internationl aspect of this ideology is exemplified in this issue of SOUTHWESTERN MEDICINE. The scientific articles from our sister Republic of Mexico, printed herein, are but a small example of the excellent and authoritative contributions which the profession in Mexico is making to world-wide medical knowledge. Physicians from the United States who have attended Clinical Sessions in Mexico are high in their praise of Mexican medicine.

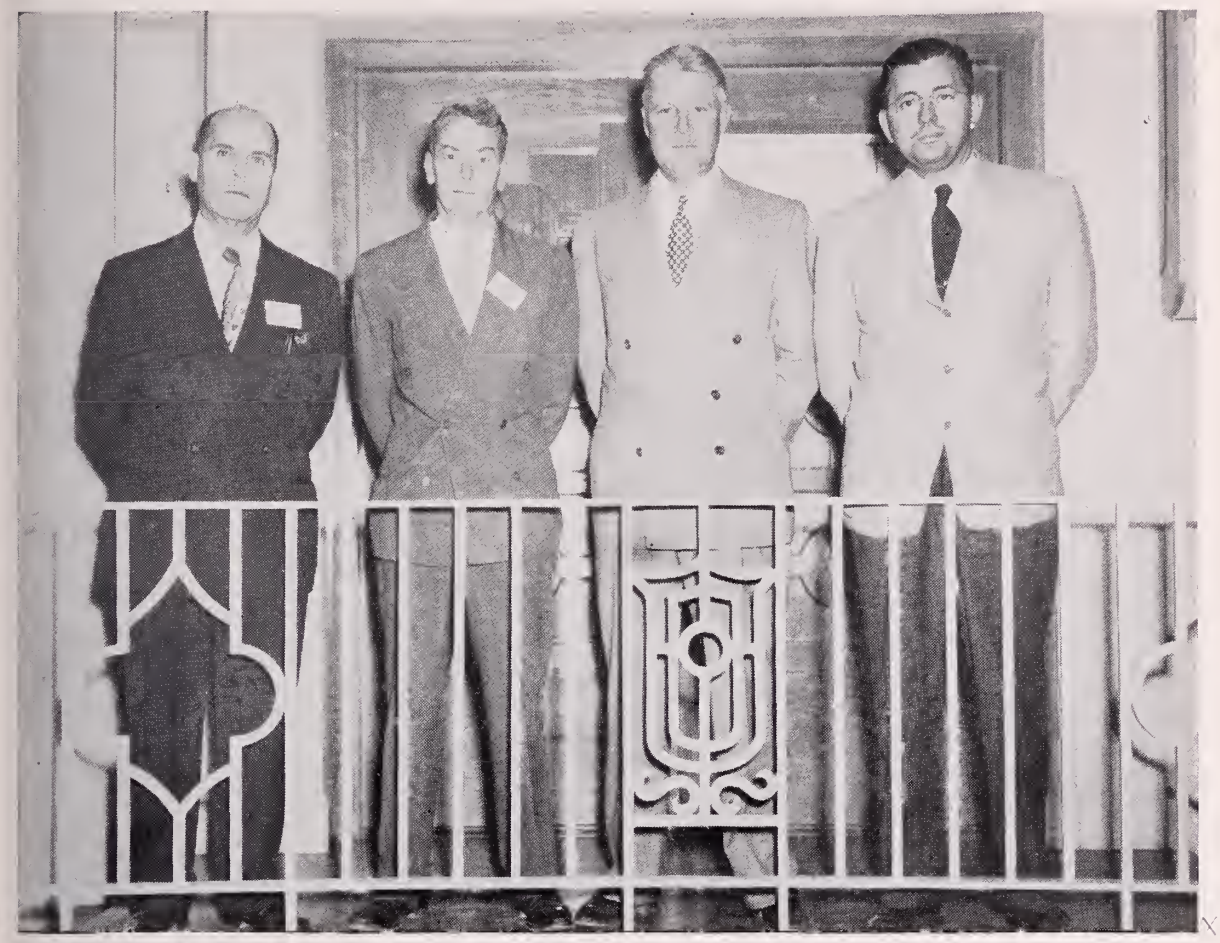
Unfortunately, this spirit of medical co-operation does not exist in every country today. The profession behind the Iron Curtain is no longer free to disseminate its knowledge throughout the world. The all-powerful polit-buro dictates the policies; and the ideology of Communism overcomes medical ideology.

WORST EXAMPLE

By far the worst example of degradation of the medical profession is exemplified by the Germans under Hitler. The ideology of Nazism and Aryan supremacy so engulfed the German people and the German doctors and scientists that medical ideology went out the window. As a result, important German discoveries are just now reaching the world. The supreme result of this incident was that the formerly great medical profession of Germany lowered itself to the medical atrocities of Dachau and Buchenwald.

The profession is made up of human beings who, as individuals, are subject to the usual human frailties of conduct. Some of these frailties, such as the love of money, are detrimental to all, and will inevitably lead to a much-needed house cleaning. As long as the vast majority is free to revere a sacred medical ideology and not false idols, medical progress shall continue unabated and mankind shall profit thereby.

NEW MEXICO SOCIETY MEETING



New officers of the New Mexico Medical Society recently elected at the annual convention in Las Cruces are, from left, Coy Stone, M. D., Hobbs, vice-president; L. G. Rice Jr., M. D., Albuquerque, secretary- treasurer; I. J. Marshall, M. D., Roswell, president; and L. S. Evans, M. D., Las Cruces, president-elect.

More than 100 members of the New Mexico Medical Society attended the group's annual meeting in Las Cruces, May 4-6, to hear outstanding speakers in the field of medicine present papers on a variety of pertinent subjects. Many physicians from El Paso also attended the meeting as visitors.

Officers elected for the 1950-51 year include Dr. I. J. Marshall of Roswell, president; Dr. L. S. Evans, Las Cruces, president-elect; Dr. Coy S. Stone, Hobbs, vice-president; and Dr. L. G. Rice, Albuquerque, secretary-treasurer.

Dr. A. S. Lathrop of Santa Fe and Dr. C. H. Gellenthien of Valmora were re-elected as Councilors to serve for three years. Dr. John F. Conway of Clovis was named delegate to the American Medical Association for 1950-51, with Dr. Gellenthien as alternate.

Drs. W. A. Stark of Las Vegas, A. C. Shuler of Carlsbad, and Dr. Lathrop were re-elected to the Board of Trustees for the New Mexico Physicians Service.

Elected to the Board of Supervisors for two years were Dr. C. Pardue Bunch of Artesia; Dr. H. L. January, Albuquerque; Dr. V. E. Berchtold, Santa Fe; and Dr. Conway. Selected to serve on the board for one year were Dr. H. L. Mortimer, Las Vegas; Dr. W. E. Badger, Hobbs; Dr. L. J. Whitaker, Deming; and Dr. Frank Parker, Gallup.

Dr. Marshall welcomed members to the meeting and in his opening address warned physicians about the need for taking an active part as individuals in politics. He emphasized the dangers that can develop from the charging of excessive fees and advised physicians to set up a procedure by which the public can obtain a doctor at all times.

Guest speakers at the meeting were Dr. James Spencer Speed, Dr. Willard R. Cooke, Dr. Russell J. Blattner, Dr. Henry M. Winans, Dr. Allen J. Enelow, Dr. Nathan A. Womack and Dr. Ralph J. Gampell.

Dr. Gampell, who voluntarily exiled himself from British socialized medicine, told in striking fashion the developments in England under socialized medicine.

Members of the Dona Ana County Medical Society under the leadership of Dr. James C. Sedgwick, president, assisted in plans for the meeting.

Retiring president of the New Mexico Medical Society was Dr. J. W. Hannett of Albuquerque.

PRE- AND POST-OPERATIVE CARE IN CHILDREN*

By J. Lozoya S., M. D.
Chief Surgeon, Hospital Infantil, Mexico City

To date there are few hospitals in the world with well established surgical pediatric services. In the majority of hospitals, and more often in private practice, the general surgeon takes care of both adults and children. In this field we are in the same state that medical pediatrics was twenty-five or thirty years ago, when the family doctor took care of both parents and children. Things have started to change, and today, in big cities, not only the family phyisican but the public itself demands pediatricians to take care of children.

There is now a great movement in pediatric centers to care for surgical problems of infancy and childhood on a strictly pediatric basis. Dr. Sidney Farber and Robert Gross are working hard in the project of the Children's Medical Center of Boston where great departments of Surgery and Pathology are predominant. Dr. Herbert E. Coe and the speaker have finally succeeded in organizing the Surgical Section of the American Academy of Pediatrics last November in Atlantic City. The Hospital Infantil of Mexico City has around 250 beds (out of 600 total) dedicated to surgical problems of children (general, bone, E.N.T., etc.) Because of the limited number of pediatric surgeons, it is still impossible to have one on every pediatric service; so it is very important that all pediatricians, general practitioners, and general surgeons be familiar with the fundamental precepts of pediatric surgery in the interest of their small patients.

CARE IN OPERATION

The pre- and post-operative care, as well as the care during the operation, is determined by the characteristic responses of the organism at this age, and this may be summarized as depending on the hyper-reactivity of the child. This seems to make surgical problems in infancy more difficult from the point of view of the public and even of the general physician, but it is really the best guaranty the pediatric surgeon has, if well understood and utilized. The response of the baby to therapeutic measures is prompt and precise, either favorable or unfavorable. The margin of safety in pediatric surgery is not very wide, but knowing it well, one can perform all sorts of operations on the smallest baby, even in prematures weighing less than 1500 grams. There is no prohibitive age for surgery today.

EXAGGERATED RESPONSES

The younger the child, the more exaggerated are the responses. Realizing this fact, the pre-, post-operative and operative care is determined on the basis of:

Thermolability.
Hydrolability.
Hypersensitivity to hemorrhage.
Hypersensitivity to hypoproteinemia.
Hypersensitivity to anoxemia.
Hypersensitivity to trauma.
Hypersensitivity to nervous stimuli.
Organism in a period of rapid growth.
General reactions marked, either favorable or unfavorable.

Thermoregulation is difficult. The infant may quickly develop hyperthermia or hypothermia; and the surgeon has to be very careful regarding temperature control. Hyperthermia can be combatted with (1) small ice cold enemas of 20 to 50 c.c. given every five minutes until the temperature approaches normal; (2) ice caps applied to the head or those zones where the great vessels are close to the skin; (3) intravenous isotonic solutions at a degree lower than body temperature; (4) aspirin in any way we can administer it. Aspirin can be given in the following dosages, every four to six hours if necessary.

0 to 2/12	0.01 grams
3/12 to 6/12	0.02 to 0.05 grams
7/12 to 1 yr.	0.05 to 0.10 "
1 to 3 yrs.	0.10 to 0.15 "
4 to 8 yrs.	0.15 to 0.25 "
9 to 12 yrs.	0.25 to 0.35 "
12 years on	0.50 grams

ROOM TEMPERATURE

Room temperature must be adequate. Do not cover the patient too much. We never use cold baths because they require special equipment and are very often followed by upper respiratory infections. Ether sprays are also useful. Low temperatures can be controlled by heating the environment, by warm wrappings, hot water bottles, blankets, alcohol rubs and hot tea with brandy. It is well to note here that in children, traumatic or surgical shock is almost always accompanied by hyperthermia and very seldom by hypothermia, contrary to the response of the adult patient.

It is known that a great part of the body weight of the adult is composed of water. In the child, especially in the infant, it makes up an even greater part, corresponding to 75 per cent more or less, as shown by Gamble. Because of this, the infant becomes readily dehydrated and his resistance is thus quickly lowered.

ACIDOSIS AND ALKALOSIS

Acidosis and alkalosis should be carefully controlled. The easiest and cheapest way for determining that status is by means of urine tests, but sometimes blood chemistry is necessary. Nevertheless, the careful clinical study of the patient is the best guide, and careful observations should be made as to dryness of skin and mucous membranes, lack of normal turgor of subcutaneous tissues, scanty and concentrated urine, type of respiration, hyperthermia and odor of the breath. Acidosis or alkalosis and dehydration can be combatted with saline, 5 per cent glucose or sixth molar lactate Hartmann solution, given intravenously, 15 to 20 drops a minute, alternatively and in proportion of 30 to 50 c.c. per kilo of weight for the first intravenous treatment, or 150 to 200 c.c. per kilo per day.

It is not wise to mix the solutions. It is better, as said above, to alternate them. In hypoproteinemia, low hemoglobin, anemia and intoxication, blood and plasma transfusions should be given. Give blood at the rate of 10 to 20 c.c. per kilo for the initial dose, or 30 to 50 c.c. per kilo a day, and plasma at half the rate of blood. The improvement of the patient, however, is a better guide to the amount which should be given, than arbitrary figures. Blood can be mixed with

*This paper delivered at Post-Gradute Medical Assembly, San Antonio, Texas, January 1949.

physiological saline but not with glucose solution, because it makes small clots that produce severe shock.

ADVANTAGES NEEDED

These surgical patients need every possible physiological advantage; and any adverse reaction, which under other circumstances would be of minor importance, can at such a time be fatal. Internes working with children should be familiar with the technique of giving intravenous solutions, so that venoclysis may be maintained throughout the operation and afterwards. Needles Nos. 20 or 22 are used for the veins of the hand, wrist, forearm, foot, head or neck. Any available or visible vein may be used, except the longitudinal sinus and the internal jugular. We never cut for a vein, never use the peritoneal or rectal clysis, and very seldom use the subcutaneous route. We often use a nasal catheter to give fluids, by drop, into the stomach. We believe the best route for administering fluids to a child is by mouth, and next best is by vein.

CONSTANT CHECK

During the operation the circulating nurse must watch carefully the venoclysis and control the temperature. At the same time she must check the amount of blood lost by means of the sponges and the blood in the aspirator container. The surgeon must watch hemostasis. In children 100 or 200 c.c. of blood lost may be fatal. If severe shock occurs, it is best to use washed red cells, especially in children who have received many transfusions. The viscera should be handled gently and kept moist with warm saline. Adequate incisions should be made no bigger than necessary and no smaller than sufficient. Dissection should be made by layers, avoiding large unnecessary incisions, or brutal bites with forceps.

The problem should be considered as a whole, with the least possible destruction and laceration of tissues. Use conservative surgery, strictly anatomo-physiological, and consider that when operating on a child we are intervening in an organism in its stage of rapid growth. Use fine adequate instruments, and avoid deep bites. Use fine suturing material between 0 and 6-0 Suture by layers, making an anatomical, physiological and aesthetic reconstruction. All through the operation, maintain strict regulation of temperature, hydration and blood volume. These three items are decisive in serious operations. Safety must never be sacrificed to time. Prudence comes before haste.

MAJOR SURGERY

In major surgery, especially in prematures and small infants, the surgeon has to have keen control of all his team in such a way that when the crucial moment arrives, he can obtain the integral assistance of his team with a slight movement, look or word. He is the pilot responsible for the life of the patient.

It is of fundamental importance to relieve pain. Generally aspirin and barbiturates will accomplish this. Barbiturates are seldom used in the first two weeks of life. A few drops of whiskey are used instead. After two weeks of age one miligram of barbiturate per kilo, can be given up to two years, then one centigram per kilo. This dose is sufficient not only to relieve pain but to act as pre-anesthetic medication. We never have to go beyond 15 centigrams, even if the weight should be above the stated ratio. This medication can be given orally, rectally or intramuscularly. We seldom have to use morphine, but it can safely be used after two years of age. Morphine hydrochloride is better than sulfate or sedol. Ampules of 0 01 grams are used in the following dosages.

2 to 4 years	1/4 of an ampule	
5 to 7	"	1/3 "
8 to 10	"	1/2 "
11 to 13	"	3/4 "
After 14	"	1 ampule

It is necessary to check the history to determine sensitivity to this drug.

PSYCHIATRY ESSENTIAL

Rudimentary knowledge of child psychology and psychiatry are essential. Emotional fever and even shock are not infrequent in pediatric surgery, when the surgeon does not consider this factor. It is entirely wrong to believe that pain is less marked in children than in adults.

Drainage of the gastrointestinal tract is indispensable. Wangensteen's syphon either with Levin's or Muller-Abbott's tubes, works marvelously in older children, but is not easy to control in very small infants, where suction with a syringe and a Nelaton's catheter is more useful.

Anoxemia is always dangerous in children. Postural drainage of the respiratory tract during the operation and immediately after is essential. The electrical suction apparatus must be used frequently. The position of the patient must be comfortable and should permit easy respiration and a free working field for the anaesthetist. The surgical fields, as well as the instruments and the surgeons' hands must not weigh heavily on the chest and abdomen of the patient.

RESPIRATORY CAPACITY

The child's respiratory capacity is always proportionately small and under anaesthesia is decreased. Before, during, and after operation the child must have plenty of oxygen. Avoidance of hemoconcentration is imperative. There should be an adequate amount of red cells and oxygen in the pulmonary alvoelae during each respiratory phase. This optimum condition can be obtained by means of supplying plenty of oxygen and an adequate proportion and circulation of erythrocytes.

As for anaestheisa, no matter what kind of anaesthetic is used, oxygen must be given in large quantities and anoxemia carefully avoided. Ether is is preferred, though cyclopropane is also very good. Chloroform or mixture containing it must not be used in children. In very small infants it is better to use ether by open mask method, if the operation permits; in any way oxygen may be given by nasal catheter. Ethyl chloride is very good for induction in older children.

PREMEDICATION

Premedication is based on the use of homatropine compounds orally and (zetalcaloid) intramuscularly, with barbiturates by oral, rectal, intramuscular or intravenous routes. Intravenous picrotoxin is the antidote for barbiturate poisoning. In special cases and in older children, sodium pentothal and curare, intravenously, are very good. Prostigmine is the antidote for curare. The abrupt passing from one plane of anaesthesia to another should be avoided.

Local or regional anaesthesia is not very much used, because the child becomes upset by all the work and movement of the operating room and restless with prolonged immobilization.

After the operation:

Drainage is used only when it cannot be avoided. We do not use dressings in our patients unless the wound is draining or when compression is necessary. Dressings cost money for the hospital, extra work

for the staff and are of no real advantage to the patient. In this manner the wounds can often be cleaned very easily by the nurse or the mother. Sulfas, penicillin and streptomycin are used freely, but with sound clinical judgment. Frequent checks should be made on the patient to be sure that respiratory, urinary and gastro-intestinal tracts are functioning normally. Temperature control, hydration and transfusions should be used as needed.

EARLY AMBULATION

Allow the patient to move spontaneously, freely, as soon as possible, in bed and also out of bed. Pediatric surgeons were the first to start "early ambulation" many years ago, because children made the decision themselves.

Give food soon, provided the correct diet is given in accordance with pediatric precepts. Hypercaloric diets in small volume and in tasty form should be prescribed. Cereal gruels with soya flour and condensed milk are especially good. There is no better way to give proteins and fluids than by mouth.

Every one in the service must keep in mind that pediatric surgery must be strictly conservative, because the child is an organism in a stage of rapid growth. It is of paramount importance to remember that the child reacts intensely to all therapeutic measures, favorably or unfavorably. "Keep close to the patient all the time" is the first and most valuable rule in a surgical pediatric service.

Of course there are many special techniques that cannot be outlined in a paper of this length.

Good pediatric nursing care and precise co-ordination of all hospital services are decisive factors. Without them we should be lost. The time of "individual surgery" is definitely past. It must give way to "Institutional surgery."

Penicillin with Dental Extractions

Heitzman, E. J., and Cutts, F. B.: **Sub-Acute Bacterial Endocarditis; a Review of 45 Cases,** Rhode Island M.J. 32:611 (Nov.) 1949.

That recent dental extractions without the prophylactic use of penicillin is apparently an important precipitating cause of subacute bacterial endocarditis is concluded from an analysis of the records of 45 patients with subacute bacterial endocarditis studied in the Rhode Island Hospital during a 10-year period.

43 of the patients had rheumatic heart disease, 2 congenital heart disease.

19 patients were treated from 1939 to 1943 inclusive, 26 from 1944 to 1948. Only 1 patient in the 1939-43 group gave a history of recent tooth extraction, as compared with 8 in the 1944-48 group. The authors state that in many instances the record contained no statement regarding tooth extraction. None of the patients had received prophylactic antibiotics prior to oral surgery. The authors state that they were unable to discover any patient who underwent dental extraction with the preoperative administration of penicillin who subsequently developed subacute bacterial endocarditis.

Prior to 1944, 65% of the patients with subacute bacterial endocarditis died and the remainder left the hospital unimproved and in poor condition. Since 1944, 12 of the 26 patients died; 2 of these had received no penicillin. 14 patients were apparently cured.

Famous Physician to Edit Family Doctor Journal

Dr. Walter Alvarez, senior consultant in the division of medicine in the Mayo Clinic and widely known author and medical lecturer, has been appointed medical editor of "GP", published by the American Academy of General Practice.

The first issue of the medical association's significant new journal has been mailed to its 12,000 members and other subscribers.

The selection of Doctor Alvarez to succeed Dr. F. Kenneth Albrecht, who died following an automobile accident last month, was announced by Mac F. Cahal, Executive Secretary of the Academy and Managing Publisher of "GP".

Doctor Alvarez is one of the nation's best known physicians. He has been referred to as the "Twentieth Century Osler" by those who would compare him with the famous Johns Hopkins physician who was knighted by the British king.

NATIVE CALIFORNIAN

A native of California, Doctor Alvarez received his M.D. degree from Stanford University Medical School and later studied at Harvard. Since 1926 he has been associated with the Mayo Clinic in Rochester, Minnesota, and has held the position of Professor of Medicine of the Mayo Foundation of the University of Minnesota since 1934. Doctor Alvarez has been a prolific writer on medical subjects for many years and has served as editor on both "The American Journal of Digestive Diseases" and "Gastroenterology". He has been contributing author to several important books and has more than 650 articles in the medical literature throughout the country.

Having reached the age of retirement at the Mayo Foundation, he is moving his residence to Chicago where he will assume the duties of medical editor of "GP".

The journal is published by the Academy's headquarters office in Kansas City, Broadway at Thirty-Fourth Street.

The appointment of the new editor from among several outstanding candidates was made following a meeting of the Academy's Publication Committee in Chicago. Dr. Stanley R. Truman, Oakland, California, president of the Academy, is chairman of the committee. Other members are: U. R. Bryner, M. D., Salt Lake City, Utah, Arthur N. Jay, M. D., Indianapolis, Indiana, and D. G. Miller, Jr., M. D., Morgantown, Kentucky.

Pernicious Anemia Relapse

Erf and Wimer[11] (Jefferson College Medical School, Philadelphia) treated a pernicious anemia patient in relapse using vitamin B12 in doses of 25 micrograms intramuscularly on two successive days. The patient was followed for 114 days and the peak level of red blood cells occurred on the eighty-sixth day. They also treated two other patients with pernicious anemia in relapse, one of whom had severe subacute combined degeneration. Following a single dose of 32 micrograms of vitamin B12 from *Streptomyces griseus* the patient without neurologic complaints had a good hematologic response. The dose was repeated in the patient with combined degeneration and ultimately definite neurologic as well as hematologic improvement took place.

A CASE OF EXTREME SPONDYLOLISTHESIS WITH COMPLETE LUMBO-SACRAL DISLOCATION AND DOWNWARD OVERRIDING OF THE DISPLACED FIFTH LUMBAR VERTEBRA

By Dr. Alvaro Rodríguez Villarreal
Torreón, Coahuila, México

The author wishes to present a radiologic study of an interesting case and accompany this with a rather incomplete clinical history. It is being presented because in reviewing the literature there was not even mentioned another case with similar characteristics

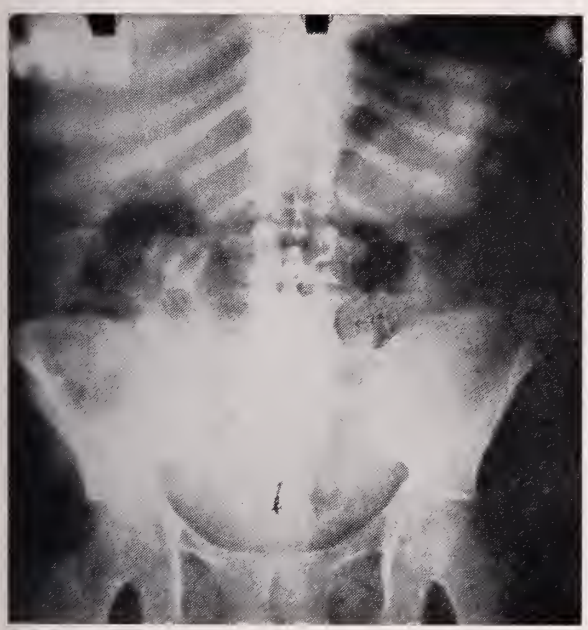


Fig. 1—Antero-posterior view of the lumbo-sacral area showing the extreme spondylolisthesis with the presence of an ovoid shadow representing the bodies of the lower lumbar vertebrae projected against the sacrum.

to the one being presented. I believe this unusual case will very well compensate for what is lacking in the history and clinical story.

This is a radiologic study of the lumbo-sacral area of the vertebral column on a Mrs. P. C. referred to me by Dr. Jose Gonzalez Villarreal, who aroused my curiosity as to the lesion which had been discovered. With the help of Dr. J. G. Villarreal who supplied me with the necessary information and physical examination data, I will describe the roentgenograms and interpret them.

CASE REPORT

The films will be described first and these may be seen in the accompanying illustrations, Figures 1 and 2. These consist of an anterior-posterior view and a lateral view of the lumbo-sacral area. It will be noted in the A-P view that at first glance there appear to be only two lumbar vertebrae with the ribs situated practically on top of the iliac crest. In the region of the sacrum, there is observed the presence of a dense shadow that was interpreted finally as resulting from the superposition of the x-ray images of the third, fourth and fifth lumbar vertebrae in front of the sacrum. The lateral x-ray shows clearly the complete subluxation of the vertebral column with the fifth lumbar vertebra lying squarely in front of and beneath the upper portion of the sacrum.

The patient was a female, of Mexican-Indian descent, thirty-eight years old, married, and by occupation, a cook. At the time she came to my office she was walking in an erect position. It was immediately apparent that she was of very short stature with her trunk being out of proportion to her legs, and much shorter, apparently, than her lower extremities. She solicited the services of Dr. Gonzalez Villarreal originally because of a vaginitis. The etiology of this was unknown. The gynecologist ordered a radiological survey. On vaginal examination, however, there was felt a prominent mass in the posterior fornix of the vagina which was felt to be an unusually prominent promontory of the sacrum.

GENERAL INSPECTION

In the general inspection of the undressed patient, the disproportion of the lower extremities to the trunk, and the proximity of the last ribs to the iliac crest were immediately apparent. A marked depression in the patient's back in the lumbo-sacral area was found also. The patient, when questioned, stated that she had pain where the ribs pressed on the iliac crests whenever she did moderate or heavy exercise There was also some pain in the lumbo-sacral region itself with exertion.

Further investigation of the history revealed that some years prior to the present illness, she had what was called rheumatism and was in bed for a period of one year. Before that the patient was well. She stated that she was normal in stature, and had never had any injury or illness which might account for her present trouble. She was married when she was eighteen and became pregnant during her first year of marriage. After a difficult childbirth which ended in a crouching position, she noticed a sudden pain in the vertebral column in the lower part of the back. Since then she had low back pain off and on and some of the time quite disabling in degree. The backache radiated down into both legs. The pain gradually increased in intensity and her attacks of severe pain came more frequently. Approximately six years after the birth of her child, the patient developed crural paraplegia with incontinence of the bladder and rectum. She was in this state for approximately one year. Toward the end of the year, the incontinency disappeared and she also regained the ability to use her legs. No medicines appeared to be effective in producing this improvement. During the time in

which she was disabled so badly she walked in a peculiar position with her trunk thrust forward.

COMMENT

The history given by the patient, in the opinion of the author, does not satisfactorily explain the pathology found in the lumbo-sacral joint in the x-rays; for it is felt that there should be a history of a severe trauma to produce so much displacement.

There existed undoubtedly and originally a congenital spondylolisis (a bilateral fissure of the interarticular portion of the vertebral arch, the inter-



Fig. 2—Lateral view of the lumbo-sacral area showing the complete forward and downward displacement of the fifth lumbar vertebra on the sacrum so that it lies well below the upper end of the sacrum.

apophyseal isthmus) which may have been in effect a true asymptomatic spondylolisthesis with less displacement than was found in the films. It is felt that this spondylolisthesis was aggravated at the time of labor, and it became symptomatic in the form of chronic low back pain and later on in the other symptoms innumerated above in the case report. The dis-alignment of the fifth lumbar vertebra over the sacrum became more and more severe with the anterior portion of the neural arch of the vertebrae going forward with the body and the posterior portion of the neural arch and spinous process remaining posterior. This progressive subluxation resulted in compression of the nerve root possibly between the articular surface of the sacrum and the apophyseal joint surfaces of the fifth lumbar vertebra and in addition to this probably there was pressure by the displaced vertebrae.

The disappearance of the paraplegia later could be explained by supposing that these isolated portions of the bone were resorbed over a period of time releasing the pressure on the cauda equina.

The foregoing interpretation may explain in part the clinical history as related by the patient but there are still left a great quantity of "hows" and "whys" which are unanswerable. It is to be hoped that some of the readers of this article better acquainted with such subjects than I am may be better able to interpret this case and if so, it is hoped that they will write me and inform me of their opinion.

SUMMARY

1. A very unusual case of severe spondylolisthesis is reported in which the fifth lumbar vertebra slipped forward and then downward on the sacrum until the fifth lumbar vertebra lay completely in front of and below the upper portion of the sacrum.

2. These x-ray findings were encountered incidentally in a gynecological patient.

3. Her presenting symptoms as far as her skeletal deformities were concerned, were pain where her ribs pressed on her iliac crests and some low back pain.

4. There was no history of trauma in this case, although she had a sudden severe onset of symptoms at the termination of a difficult labor with her first pregnancy.

5. A very interesting feature of the history was that the patient had a partial paraplegia with incontinence of the bladder and rectum for a period of one year, thirteen years before she was seen by the author.

6. It is difficult to reconcile the clinical and x-ray findings with the history, and some comments are made upon this by the author.

Editorial Comment

This is an excellent paper reporting a very rare case of spondylolisthesis with extreme downward displacement of the fifth lumbar vertebra. The editors of SOUTHWESTERN MEDICINE have taken the liberty of making a free and liberal translation of the paper as originally submitted in Spanish. They have felt this necessary in order to make it more readable; for literal translations are always awkard and less pleasant for the reader.

Dr. G. H. Fitzgerald

Dr. Guy Harlan Fitzgerald, Tucson physician for the past 18 years, died recently. He was 76 years old.

Born in Cleveland, Ohio, Dr. Fitzgerald came to Bisbee in 1914, where he practiced until coming to Tucson in 1932.

Survivors are his wife, Alice W., Tucson; three brothers, J. E., Washington, D. C., Dr. Fred S., Morris, Ill.; Dr. Charles A., Clarion, Pa;, and three sisters, Mrs. Mildred Knapp, Clarion, Miss Irene Fitzgerald, Houston, Tex., and Mrs. Avis McClow, Chicago.

Dr. Fitzgerald graduated from the Western Reserve Medical School in Cleveland in 1898. He was a member of the American Medical Association, The American College of Surgeons, the Arizona and Pima County Medical Societies. The physician was a life member of the Ballut Abyad Temple, Albuquerque, N. M., a member of the Perfect Ashlar No. 12, F & AM. Bisbee, and the Bisbee commandery No. 4 Knights Templar.

CHRONIC ULCERATIVE COLITIS WITH CASE REPORTS

(Estudio Sobre "Colitis Ulcerosa Cronica" con Presentacion de Algunos Casos Clinicos)

By Dr. Roberto Castañeda a la Torre
Ciudad Juarez, Chihuahua, Mexico. Feb. 11, 1949

Anatomically, colitis is separated into two main groups, the so-called false, or functional colitis, and true or organic colitis. We further divide organic colitis into two sub-groups, namely, ulcerative colitis of known cause, and ulcerative colitis of unknown etiology, termed, usually, chronic ulcerative colitis. Historically we find that the first cases were reported by Wilks in Moxon in 1875. Hale White mentioned the subject in 1888. Later in 1912, Segond Cade Hutinel, and Nobecourt reported a small number of cases. However, on the North American continent, real credit for the recognition of this lesion must be given to Dr. A. H. Logan, who, in 1919, presented 117 cases. Dr. A. E. Bargen from the Mayo Clinic in 1942, presented 3,600 cases. In Mexico this subject has been brought to the front by two physicians, Dr. Jorge Flores Espinoza, and Dr. A. Acevedo.

Great emphasis is placed on the variety which exists in the nomenclature of this disease, such as: Ulcerative rectocolitis of unknown etiology; colitis gravis (German School); streptococci chronic ulcer active colitis (North American School with A. Bargen); Idiopathic ulcerative colitis; colitis ulcerosa grave; rectocolitis ulcerosa grave hemorragica; etc.

CLINICAL STUDY

Our Clinical study has been conducted as follows: Critical analysis of the history; complete physical examination; sigmoidoscopy with histopathological examination; radiographic examination and microscopic examination of the stools. In the critical examination of the history one must consider first the general conceptions of the disease.

In this study it has been noted that this particular type of colitis is much more frequent than is generally thought; the diagnosis is often missed because one fails to consider the possibility and to look for it. In our series of cases there is essentially no difference as regards the sex.

It was found to be more frequent between the ages of twenty and forty years, but was not infrequently seen in children, and in the aged. In the group of cases presented, the ages varied from six to sixty-six. It should be noted here that when the disease has developed prior to puberty, it causes arrest of the somatic and psychical development of the individual.

CONSTIPATION

Heredity apparently does not play a part, and there was no predisposition as regards race. It was found that episodes of constipation with acute attacks of simple diarrhea were among the first objective symptoms noted by the patient. The history of these patients revealed that essentially all of them had symptoms referable to the gastro-intestinal tract, such as dysentery, gastro-duodenitis, or post-prandial discomfort. It was felt that social and hygienic conditions might well play a part, and that in some of these cases the bacterial and parasitic colitises seen during the summer months may well have been perhaps an instigating factor. In some cases, focal infection was considered to play a part, and in other cases indiscretions in diet which continually traumatize the large bowel were considered to be of etiological significance.

It is considered that there are four cardinal symptoms as regards the dysenteric syndrome; namely, pain, false desire to move the bowels, tenesmis, and so-called false diarrhea. In this connection it may safely be said that the prognosis in the acute form, manifesting these four cardinal symptoms, has been greatly improved since modern chemo-therapeutic agents have been employed in the treatment. The same applies to some degree to the group of chronic disease, and several chronic cases are reported with periods of good health for over a period of ten years.

This type of colitis is very often accompanied by complications. For purposes of study, these can be divided into local and general complications as follows:

LOCAL COMPLICATIONS

1. Poliposis.
2. Obstruction and stenosis of large bowel.
3. Perirectal or perisygmoid abscesses.
4. Cancer of the large bowel.
5. Perforation of the large bowel.
6. Massive hemorrhage.
7. Fistulas.
8. Prolapse of rectus.
9. Fissures of anus.
10. Hemorrhoids.
11. Pruritus ani.

GENERAL COMPLICATIONS

1. Arthritis.
2. Muco-cutaneous manifestations.
3. Renal insufficiency.
4. Endocarditis.
5. Hemiplegia due to embolism.
6. Phlebitis.
7. Splenomegaly.
8. Edema due to hypoproteinemia.
9. Neuritis of different types.
10. Thromboangiitis obliterans.
11. Abscesses in the liver.
12. Acute yellow atrophy of the liver.
13. Parenchymatous degeneration.
14. Suppurative parotiditis.
15. Cachexia and anemia.
16. Physical and mental infantilism.

In the cases considered pseudopolyposis was the most frequent complication, and it was noted that many of the cases had complications which could be classified both under the heading of local and general.

SIGMOIDOSCOPY

Sigmoidoscopic examination is considered to be of prime importance, and probably of more importance in this series of cases than the radiographic ex-

amination. Microscopic examinations of the stool, if carefully done, were found to be of great importance. Two other procedures which were found to be beneficial were the lipo-soluble albumin reaction, and the technique used to isolate the diplo-streptococcus of Bargen.

It was impossible to reach any exact conclusion as regards the etiopathogenesis. Various theories, such as co-existing allergy, nutritional deficiency, bacterial invasion, and even psychosomatic problems were considered. It is interesting, however, to note that on several occasions amoebic dysentery had been present prior to the inception of true chronic ulcerative colitis. As to the prognosis, the opinion is expressed that the word "control" should be used instead of "cured". As regards treatment, the usual medical treatment, consisting of support and anti-biotic and chemotherapeutic agents was stressed, and the place of surgery was discussed at some length, especially as regards Ileostomy, which in two of the reported cases produced very adequate results. **AUTHOR'S ABSTRACT.**

Distinguished Speaker at Safford Meeting

Dr. Arthur E. Smith, M.D., D.D.S., F.A.C.S., Los Angeles, noted oral and plastic surgeon, was the principal speaker at the recent meeting of the Graham County Medical Society in Safford, Ariz.

Dr. Smith spoke on, "The Detailed Surgical Technique of Various Types of Reconstructive, Plastic, Maxillo-Facial and Oral Surgery." The lecture was accompanied by several reels of exemplary and instructive colored motion pictures.

Dr. Smith is senior staff member, California Hospital, Los Angeles; senior staff member, St. Vincent's Hospital, Los Angeles; senior consultant, Veterans' Hospital at Sawtelle, Los Angeles; consultant, Mission Hospital, Huntington Park; professor of reconstructive plastic, maxillofacial and oral surgery, University of Southern California.

ROBERT S. KELIER, M.D., President,
Graham County Medical Society
Safford, Ariz.

"Doctor of the Year"

DR. JIM CAMP WAS HONORED at a banquet in Pecos last night. He was named "Doctor of the Year" of this district of the State Medical Association.

Dr. Camp is ending 50 years as a general practitioner. He has helped at the births and watched the deaths of innumerable people of Pecos and the surrounding territory. He has grown to be the first friend of the community, a well beloved citizen.

Dr. Camp's tribe is all too few, and it is to be hoped that they do not disappear. The profession must see that they do not.

We do not wonder, either. We feel sure that Dr. years in Pecos, or anywhere else, under a system of socialized medicine such as the socialists who masquerade under false labels would bring to this country.

We do not wonder, either. We feel sure that Dr. Camp would never have existed under socialized medicine. That system makes bureaucrats of physicians and bureaucrats are victims of the vocational diseases of sloth and inefficiency. They wouldn't work as Jim Camp has for half a century.

Many a time in the cold darkness, Dr. Camp has driven away from his warm home to deliver a baby. The mother, and the helpless father, welcomed him, trusted him, and worried no more after his arrival.

But suppose a bureaucrat had arrived to do the job.

Reprinted from
EL PASO HERALD POST

Urethane (Ethyl Carbamate) Therapy In Multiple Myeloma

"Four patients with multiple myeloma have been treated with urethane (ethyl carbamate) for eight to ten weeks in total doses of 120-290 gm. and observed over periods ranging from seven to thirteen months. Striking benefit relating to all aspects of the disease was observed.

". . . the administration of urethane to patients with multiple myeloma alters the fundamental abnormality of the disease in a selective and beneficial way made possible by previously available therapeutic agents.

"The urethane was given in divided doses by mouth in the form of an elixir or syrup. All four of the patients tolerated the chemical exceptionally well with virtually no gastrointestinal symptoms. During the first three to four weeks they were given 4-6 gm. per day. Three patients developed leukopenia following which the dose was reduced to about 2 gm. daily or temporarily suspended. Further fall in the white cell count did not occur. The urethane was given over a period of about two months and then discontinued . . . . Two patients relapsed and were given a second course of therapy.—Loge, J. P., and Rundles, R. W., Blood, J. Hematology, 4:201, 1949.

Agranulocytosis

Cahan, A. M.; Meilman, E., and Jacobson, B. M.: **Agranulocytosis Following Pyribenzamine; Report of a Case,** New England J.Med. 241:865 (Dec. 1) 1949.

A case of agranulocytosis subsequent to pyribenzamine therapy successfully treated with penicillin, folic acid and supportive treatment is reported.

The patient was a 39 year old woman who received a total of 4 Gm. of pyribenzamine over a period of 5½ weeks in treatment of a spreading rash diagnosed as a contact dermatitis. Two days before admission to the hospital and a day after onset of chills, fever, prostration and sore mouth, the patient discontinued the pyribenzamine and took several empirin tablets.

Treatment consisted of penicillin in a dosage of 100,000 units intramuscularly every 3 hours for 6 days, then every 8 hours to a total dosage of 4,800,000 units.

Supportive therapy included a soft diet and multivitamin capsules. Folic acid was started on the 3rd hospital day.

On the day of admission the white blood cell count was 3,200 with 8% neutrophils and 6% basal forms. On the 8th day the white count had risen to 7,500 and 70% neutrophils, 27% lymphocytes and 3% monocytes.

The Effect of Procaine Penicillin on the Bacteriostatic Action of Sulfadiazine

"Because procaine has been reported to interfere with the bacteriostatic action of the sulfonamides, it seemed important to determine whether or not the amount of procaine administered in the usual therapeutic dose of procaine penicillin has any demonstrable antisulfonamide effect.

"Results obtained in this study show that the bacteriostatic activity of sulfadiazine in the serum of children receiving therapeutic doses of sulfadiazine is not affected by the administration of presently available procaine penicillin preparations when the latter are also given in the usual therapeutic dosage." —Goldberg, D., and Kagan, B.M., *J.Lab.Clin.M.* 35:63, 1950.

ADVANTAGES OF THE CERVICAL TRANSPERITONEAL TRANSVERSE CAESAREAN SECTION

(Ventajas de la Cesarea Cervical Transperitoneal Transversa)

By Dr. Carlos Miranda Garzon
Ciudad Juarez, Chihuahua, Mexico. Feb. 10, 1950

The problem of uterine infection is no longer considered as great a menace to caesarean section as it was previously, because of the acquisition of modern anti-biotic and chemo-therapeutic agents, plus the great advances in surgical technique. There has been a noticeable change in the major condition and indications regarding this particular surgical procedure. This may be stated as follows:

There has been a notable increase in the percentage of conservative sections; for the most part, those which have simplified technique, such as a transperitoneal surgical caesarean section. There has been essentially complete abandonment of the extraperitoneal caesarean sections. This technique is considered complicated, useless, and not without danger. It may be stated that the Portes caesarean section with exteriorization of the uterus has been essentially completely abandoned, mainly due to the fact that there is rarely, if ever, an indication for this particular type of operation.

The Porro type of section with removal of the uterus is becoming a rare procedure, and having its only justification perhaps in uteri which have neoplastic disease. Drainage is rarely instituted, since it has been found that it will not take care of any complications that cannot be solved by the proper use of anti-biotic therapy.

CLASSIC DESCRIPTIONS

In Mexico the transperitoneal caesarean section has been used for many years. The technique follows the classic descriptions (De Lee, Williams, etc.), with a longitudinal and retrovesical incision of the cervical segment. The work of Matus of Chile, and of Aguirre from Chihuahua has shown quite clearly that the transverse incision possesses certain advantages; and, since July, 1949, when we adopted this technique, we have been able to make the following observations

First, in making the longitudinal incision, a great number of muscular fibers, which are cut perpendicularly, heal, producing considerable amount of fibrous tissue, which results in the loss of the elasticity and contractility in the severed segment, which, of course, interferes with its function.

Secondly, the technical difficulties in making an incision consist principally in havng to make a great separation of the bladder, so that the incision in the uterus is of adequate size. This is not usually obtained; and because of it, the superior angle is often ruptured during the delivery of the head which causes the technique to really lose its purpose. During the closure the inferior angle is at such a deep plane that it may produce incomplete union, or even bladder perforation.

TRANSVERSE INCISION

The transverse incision has a number of advantages. It does not sever any muscular fibers, and the incision is made in their same direction. The dissection is made with the fingers in similar manner as one separates the muscle fibers of the anterior abdominal wall during a laparotomy, and of course, therefore, induces much less trauma. During the delivery it is really inconsequential if there is any tearing in the angles, because these will not include the uterine segments, which would modify the purpose of the technique. At the time of closure, an Allis clamp is placed on each angle at the right and left of the surgery instead of above and below, in order to facilitate closure. The suture is done in two layers.

It is a proven fact that the loss of blood is less with the transverse incision than it is with the vertical type. In a large number of sections using this technique, only one accident has been observed. At the beginning of the closure, the inferior lip was thought to be bladder which had slipped from the retractor. A suture was made, suturing together the upper lip and the posterior wall of the lower segment that at that time was folded, and simulated a free border that was thought to be the lower lip. The mistake was caught; the retractor was removed; and repair was made without serious consequence.

SURGICAL TECHNIQUE

Surgical technique may be described in the following manner:

1. Infra-umbilical laparotomy in the middle line. Exposure of the uterus and protection of the rest of the abdominal cavity with sponges.
2. Transverse incision of the vesico-uterine fold reaching in both sides the border of the cervical segment.
3. Separation of the bladder as low as possible, taking advantage of the vesico-uterine cleavage.
4. Retraction of the bladder with the pubic retractor.
5. Upward separation of the peritoneal investment until we reach the contractil portion of the uterus.
6. Transverse incision 2 cms. long in the middle of the cervical segment, affecting only the muscular layers and leaving the membranes intact.
7. Puncture of the membranes and suction of the amniotic fluid.
8. Both index fingers are introduced into the incision with their dorsal surfaces in contact. The fingers are then separated, enlarging the incision until there is enough room for the passage of the foetus.
9. Delivery of the foetus. This maneuver will vary according to the position of the foetus.

REST PERIOD

10. Rest period during which the uterus should contract and slowly expel the placenta. This expulsion can be accelerated with slight pulls of the cord.
11. Intra-uterine toilette and careful hemostasia.
12. Closure of the wrench in the uterine wall with two layers of continuous sutures. The first layer is invaginated. Chromic catgut No. 1 is used for these sutures. The mucous layers should not be included in these sutures.
13. Removal of the pubic retractor and peritonization with a purse string suture, in order to leave a surface as smooth as possible.

14. Removal of the compresses and closure of the abdominal cavity as usual.

We have employed this type of caesarean section on several occasions because of the following indications: Marginal placenta praevia with hemorrhage; dystocia due to narrow pelvis in a primipara with 48 hours of labor, ruptured membranes, and foetal bradycardia; narrow pelvis in a primipara with recent foetal death, central and complete placenta praevia; and in one case where the dystocia was due to the inability of the cervix to dilate due to previous fulgurations. The case records reveal that the post-operative convalescence was not stormy, and all these patients were dismissed from the hospital prior to the eighth post-operative day. **AUTHOR'S ABSTRACT.**

BCG — What Is It?

An increasing number of newspaper stories are appearing about the tuberculosis vaccine BCG.

It should be said, first of all, that BCG is no shining new discovery. It is nearly thirty years since the vaccine (called Bacillus Calmette-Guerin for the French scientist who developed it, or "BCG" for short) was first used on human beings; more than forty years since experiments began on animals.

It has been used on millions of people in European countries particularly in Denmark. That country's chief of tuberculosis control reports that "BCG vaccination is absolutely safe . . . The vaccination gives considerable, but not absolute protection."

Similar findings have been reported (although on far fewer cases) by American and Canadian medical research men. Their work has been done mainly on hospital nurses, American Indians and infants who had had no known exposure to the disease.

Second, it should be made clear that BCG, at best, is a preventive. It is of no value whatever as a curative agent. The thousands of patients who now have active tuberculosis should stake their plans for recovery on sanatorium care, with or without surgery, the the seasoned judgment of their physician decides.

Third, BCG is of no value even as a preventive agent when an individual is already "positive" to the tuberculin skin test— that is, has already been infected with tubercle bacilli. Approximately half of all adults today are believed to be tuberculin-positive, although most of them, let it be added at once, will probably go through life without active tuberculous disease.

Fourth, the vaccine does not give "absolute protection." There is a great question mark in many investigators' minds. Vaccinated persons have now been observed to remain well for eight or ten years. But will their immunity remain good for the thirty of forty remaining years of life?

Finally, the vaccine is not commercially available. No drug manufacturer produces it; no drug house sells it. Private physicians, even if they wanted to, could not today obtain supplies with which to vaccinate private patients.

Up to now—and probably for some years to come —the only vacciation programs in the United States have been carried on by governmental bodies like the Office of Indian Affairs, or non-profit laboratories, and under carefully planned arrangements. One program is now under way whereby student nurses and medical students who are negative to the tuberculin skin test may be vaccinated to give them some protection against development of active disease if and when they later become infected.

Today, after many years of cautious observation, many American public health workers seem ready to utilize BCG more generally.—Condensed from The Crusader.

Spring Colds

During the Spring months the incidence of common colds in the United States reaches one of its three yearly high points, the other two occurring in January and in October and November. The common cold, because of its mildly debilitating effects when compared with diseases which elicit more dramatic responses from their victims, has not received its due public and scientific attention. Research has been busy in less innocuous directions, and the control of "coryza" has been left largely to the unskilled discretion of the sufferer whose daily activities frequently permit him to seek medical advice only as a final resort. Even though various types of cold therapy, ranging from high-protein, low-carbohydrate diets to bactericidal aerosols, have been found partially effective, the guilty filterable virus and the mucosa-invading micro-organisms continue to defy a standard form of management. Until the same degree of investigative force that has been applied to the control of veneral disease, childhood disorders, tuberculosis, and many others is brought to bear on the common cold, and so long as people must get close to one another and breathe at the same time, the old Army recommendation of "drink lots of water and get lots of sleep" will retain its value, however paradoxical it may sound.

Lack of Negro Physicians

The drive to raise $1,300,000 now being conducted by the United Negro College Fund, in which it is hoped to aid thirty-three member colleges in increasing the number of Negro physicians and others in allied professions, has brought to light some very interesting and pertinent information which heretofore has not been generally known. A comprehensive study recently completed by the Fund, covering various fields of Negro health and welfare service, reveals that there is only one Negro physician for every 4,000 Negroes, compared to one white physician for every 900 of the nation's population. As a result, William J. Trent Jr., executive head of the Fund, estimates that 13,000 Negro physicians are needed today. He declares further that there are only 1,400 Negro dentists compared with almost 70,000 white dental practitioners, while the number of Negro nurses is around 8,000 of the 400,000 nurses in the United States. In its appeal, the Fund's report, in pointing out the glaring disparities which exist in those fields, declares that "Americans who would demonstrate practical democracy to the world must teach hope by helping to release our own minority groups from despair." This drive is worthy of the support of the various colleges and universities throughout the United States.

Clinical Experience with Thiomerin

"Thiomerin, administered subcutaneously, is a safe and efficient diuretic. If further observation warrants it, the ultimate value of this drug may soon be realized; that is, administration in the home by a member of the family or by the patient himself."—Enselberg, C.D., Simmons, H.G. *Am.J.M.Sc.* 219:139, 1950.

Status of Vitamin E in Treatment of Heart Disease

"The complete lack of successful or even promising results reported by so many investigators leads to the conclusion that the value of vitamin E in the treatment of heart disease has not been proved."—Baer, S., and Heine W. I., *Modern Concepts of Cardiovascular Disease* 18:53, 1949.

THE DANGERS AND DEFENSES OF OUR AIRWAYS*

By Ralph A. Fenton, M. D., Sc. D., Portland Oregon

Since the childhood of our race, people have worried about the nose and throat as portals of infection; and we have used various aromatic spices and herbs — incense, sandalwood, tobacco — for toughening the resistance of our respiratory linings. During the plague in Florence, doctors wore an impervious coverall, with a helmet resembling a bird's head, the beak of which was filled with spices. Lepers are still made to veil their noses and mouths in certain Eastern countries.

Ancient notions of disease as a miasma arising from foul night air, or as an interference with the ascent of "vital humors" from the nose into the ventricles of the brain, gave rise to similarly weird ideas of the pathology of nasal irritation and discharge, which came to be grouped, even in our own days, under the general name of catarrh — a "down-flowing", thickening and corruption, of normally "light and stimulating humors".

We now know that nasal disease is very ancient, since its traces are evident in the skulls of prehistoric man. Development of the frontal lobes of the brain and crowding the eyes together to secure binocular single vision, have caused anthropoid apes, monkeys and ourselves to lose the roomy nasal cavity and extensive olfactory organ of lower species — the sinuses have become more and more crowded, and with our assumption of an erect posture their primitive drainage openings have changed direction and become narrowed or covered over.

SINUSES VULNERABLE

Like other structures whose function has been impeded or lost, the nasal sinuses of civilized man have become extremely vulnerable. Even savages with broad, open nostrils, and the large apes and monkeys, succumb to nasal disease unknown in their native habitat, when they are exposed to the crowded living conditions of our civilization, to which we have by repeated exposure acquired relative immunity.

A generation or two ago doctors knew little about nasal physiology and less about the sinuses. Treatment was for years directed to the accessible and more or less readily visible membranes of the turbinates, septum and pharynx. Tonsils were sliced off level with the pillars; adenoids were ignored or partially twisted out with forceps; Turbinates were clipped out with scissors, or, later, burned to the bone by electric cautery; the nasal septum was sawed, punched, fractured, or reset with perforated hard rubber splints to hold it in place. Nobody paid any attention to the mucous membrane, which often became dry and crusted after such procedures. Only a few bold pioneers dared to enter the antrum, usually by pulling a tooth, after which a permanent fistula into the mouth often remained; the other sinuses, especially the sphenoid, resembled old maps of central Africa or of the "great American desert" — they were unknown territory. Local treatment, by forcible douches and sprays, often led to middle ear and mastoid disease.

FEW MASTERS

Because few men had mastered use of the laryngeal mirror, only a few specialists ever looked at the vocal cords, and the trachea and large bronchi were not visualized at all. Diphtheritic membranes were, when possible, pulled out by fingers or forceps, and the O'Dwyer intubation set, often a life-saver, was used by feeling, not vision. Throat and larynx were painted with camels-hair brush applicators. Quinsy was often allowed to proceed to spontaneous rupture, which sometimes meant mediastinal invasion. Foreign bodies in the air passages or upper oesophagus were sought by bristle probings or side-tipping bucket-like "coin catchers", both on whalebone handles.

Lacking roentgen ray diagnosis, but emboldened by careful dissections, surgical pioneers of the nineties found that the accessory sinuses could easily be reached by radical operative procedures. With improvements in technique, these methods were widely adopted; but owing to sacrifice of turbinate tissue much damage, scarring, crusting and ultimate discomfort ensued. Reaction from these procedures, with the popularization of vaccine therapy shortly after 1900, led to indiscriminate use of such agents, locally and by injection; but in the presence of unbridled propaganda by manufacturers, and without standardization of dosage, vaccine therapy and the use of local antiseptics fell into deserved disrepute.

EARLY TEXTS

As physicians, we tend to follow our early texts and teachers, in spite of things learned in practice, or from later graduate study. Now-a-days too, we fall in with the skillful emphasis placed by detail or sample men, or by their advertising, upon their special applications of "new discoveries". Remember, for example, the much-touted "chlorine bomb" for inhalation, used on the stuffy nose of Vice-President Coolidge until the Army pathologist, Colonel Coupal, discovered that his patient was allergic to the horsehair binding of dusty old matting under the carpet of the Senate rostrum. (Hence Mr. Coolidge's "electric horse".) More recently, we all started to use the sulfa drugs, and later penicillin, for almost everything, until adverse reactions began to show up. And now, encouraged by some good results of oxygen and helium "aerosol" inhalations of penicillin, one finds that some firms are already pushing the sale of self-inhalers for penicillin powder.

But what about diminishing therapeutic values because of indiscriminate use of these powerful agents? New pathogens are showing up, resistant to their former conquerors. Other antibiotics are in use or coming soon, fortunately too dangerous for general use. We should certainly not let the patient himself select and administer such medicines.

It may be worth while to be reminded of some of the manifold dangers besetting our respiratory pathways. Be assured I shall not try to mention all of them.

MANIFOLD DANGERS

Postnatal influences in air and food include bacteria, viruses, molds, dusts, animal emanations, certain foods (as milk and eggs); and all of these set up responses in the young child, who either makes up his own circulating vaccines against them, falls acutely ill and is thereafter immune, or becomes allergic to one or another of them, more or less permanently.

Inhaled or swallowed foreign bodies — seeds, chicken bones, sand burs, pieces of carrot, nut meats (especially peanuts), lost baby teeth, coins, buttons, washers, safety pins, tacks, nails, screws, paper clips —any of these may shut off breathing or drop far enough into the tracheobronchial tree to shut off part

(*Read before the International Post-Graduate Medical Assembly, San Antonio, Texas, January 27, 1949.)

of a lung and cause atelectasis or lung abscess.

In the adult, occupational irritants — silicosis, soot, acid or other chemical fumes — may cause disastrous epithelial loss and secondary fibrosis, or may open fresh fields for bacterial invasion by germs already present in the nose or mouth.

Recreational dangers, also involving children, come from water contamination, particularly from coliform bacteria. Such dangers are made worse by careless swimming or diving habits, which may stir up nasal irritation leading to sinusitis, or to tracheobronchitis. Conversely, overly strong chlorination of water in swimming tanks may prove irritating. Eggs or incubation forms of various protozoa and parasites — amoebae, intestinal worms, trichinae — may enter by the mouth, either with impure water or in contaminated food; the ray fungus of actinomycosis may get in from chewing on an infested straw; while the eggs of ordinary flies may be deposited in the nasal discharges of neglected children.

Paralysis caused by bulbar poliomyelitis is especially dangerous, requiring the utmost in professional and nursing skill. Also the residual paralyses of diphtheria and of multiple sclerosis become serious because of difficulty in clearing away secretions.

ORIGINAL INFESTATION

Original infestation with relatively simple bacterial flora may with lessened resistance develop bacterial transfers into decidedly aggressive strains. Bovine tuberculosis, and brucellosis undulant fever — from raw, unpasteurized milk, may enter the tonsils and thus reach the cervical lymphatics, lungs and digestive tract. Streptococci of highly toxic human strains have been experimentally traced from the membranes of the nasal accessory sinuses to the deep cervical lymphatics, thence into the thoracic duct and the pulmonary circulation, finally reaching the lung parenchyma under the pleura. It has been possible to recover these still virulent germs within 48 hours from the liver and spleen of experimental animals. This valid route for lung infection has received little attention, since many clinicians still feel that danger to the lungs comes by direct inhalation of pathogens down the trachea.

The infectious granulomata — tuberculosis, syphilis, more rarely yaws, pinta, Hansen's disease (lepra), actinomycosis, scleroma — find easy access to the body through slight trauma in the mouth, throat, or nose. Lupus in the nose or soft palate, and perichondritis in the larynx, epiglottis or trachea, are tuberculous complications of serious moment. In the soft palate and fauces, round cell infiltrations from tertiary syphilis may be mistaken for the stiffened tissues of scleroma. Also, the subperichondrial swelling of septal gumma may resemble traumatic septal abscess, or the much slower, obstructive lesions of scleroma. Intractable bullous lesions of the cheeks and pharynx are suggestive of pemphigus.

IRRITANTS IMPORTANT

Irritants play an important part in the etiology of cancer of the nose, lips, tongue, larynx, oesophagus and lung. Among them are excessively hot tea and coffee, and tobacco, with its content of carcinogenic tars and cresols. In the nose and nasopharynx, dryness, crusting and ulceration above the soft palate, whether from ozoena or from alkali dust, require inspection by the postnasal mirror so as to be differentiated from tertiary lues or from neoplasms of the posterior ethmoid or of the nasopharyngeal vault. Ragged old teeth, loose in their sockets, may not be due to pyorrhoea or "gum boils", but may mask invasive cancer of the maxillary antrum. Visible epitheliomas of the lip and tonsil are not often missed, but it is surprising how often large ulcerated lesions of the epiglottis, base of the tongue and upper larynx, are not looked for early enough to do much good. Lung cancer, whether metastatic from breast prostate, or uterus, or caused as many now believe by excessive cigaret smoking, may be detected roentgenologically; and if bronchoscopic biopsy proves negative, cancer cells in centrifuged saline washings may be detected by pathologists trained in the technique of Papanicolaou and Clerf.

Another type of malignancy in which the blood picture is often suggestive may be subjected to tonsil surgery with disastrous results — early lymphosarcoma, Hodgkin's disease, and also infectious mononucleosis. Neglected sarcomata of these regions, in spite of early remissions under radiation therapy, invade the orbit and base of the skull through the sphenoidal fissure and jugular foramen, causing ocular paralyses, blindness and speedy death. Blood dyscrasias — aplastic and agranulocytic anemias — may exhibit vicious ulcerative processes at first mistaken for Vincent's angina.

SINUSITIS EXAGGERATED

Sinusitis is not nearly so frequent as vendors of inhalants and nose drops would have people believe. Acute rhinitis does not often do more than block the various sinus ostia temporarily; and, whether the blockade be due to chilling, to an upset digestive tract, or to an unsuspected allergy, it usually gets well without requiring any very radical treatment. However, if a massive dose of some potent pathogen gets in under pressure — dirty water from a deep dive, free pus from a severe cold when doing altitude flying — the sinus ostium may get blocked by swelling and relief must be secured. If this is not done, particularly when the individual has nasal passages cluttered up by a thick and twisted septum and bulging turbinates, sever acute frontal headaches may occur; and rarely this may foreshadow the possibility of invasion of the bony posterior wall of the frontal sinus overlying the dura, with possible osteomyelitis, meningitis or brain abscess. Fortunately, here as elsewhere in the skull, antibiotics along with free drainage have almost abolished these terrible complications.

Chronic sinus involvement may be quiescent, painless, and merely annoying because of copious or foul nasal or postnasal discharge. Many sorts of germs are found in such discharges, including the coliform type and evil-smelling saprophytes. Upper molar teeth with root abscesses below the antra are often to blame. In others, blocking of secretions either by allergic swelling or intranasal deformity leads to polyp formation. By this is meant the extrusion and overgrowth of vastly thickened mucous membranes into pale fingerlike smooth masses which effectively shut off nasal breathing. Invasion of the orbit by acute anterior ethmoid inflammation is not uncommon in young children, while low grade frontoethmoidal infection in adults may enter the orbit in the form of a painless, slow-growing mucoid cyst — mucocele — which may show up by causing lateral displacement of the eyeball.

FASHION CHANGES

It is not now so fashionable as it was a few years ago to blame the sinuses for most of the damage done by so-called "focal infection". It would seem that the teeth and sometimes the tonsils are more frequent sources of upper respiratory sepsis. However, many thickened old sinus membranes are found to exhibit numerous small abscesses in broken-down glands of the submucosal stroma; and in a small number it is found possible by special staining to demonstrate bacteria in the depths of the membrane.

The end results of chronic sinus disease are familiar to many — degenerative changes in their mucous

membranes with loss of their cilia and fibrosis of the submucosal stroma. Upon such unclean membranes mucus piles up, leading to secondary saprophytic invasion, while the discharge dries into crusts and scabs and ulceration or fissuring occurs, with shrinkage and atrophy of the submucosal tissue. Such degenerative changes may reach the stage of ozoena, with accumulation of foul crusts over the turbinates and down into the pharynx and larynx. This drying process and constant irritation from infected discharges first brings hyperplasia of lymphoid follicles in the pharynx, later the dry, shiny and burning red throat of chronic pharyngitis, often with annoying scabs above the soft palate. Similar changes in the larynx and trachea cause alterations in the voice and establish chronic cough. In the bronchi, about which clusters of enlarged glands are usually found at the bifurcation, chronic irritation even to the point of bronchiectasis may occur. Swallowed mucus and crusts, containing virulent bacteria as well as saprophytes, often pass the stomach and small bowel, and stool cultures will reveal streptococci of extreme toxicity infesting the colon in great numbers, or invading the gall bladder or appendix.

TRANSFERRED INFECTIONS

It will thus be seen that many cases of so-called "focal infection" are really transferred infections, comparable to the active foci of arthritis, themselves virulent long after the initial focus in teeth, tonsils or sinus membranes may have been removed. Invasion of the blood stream by bacteria or their toxins through an increased network of capillaries in the subepithelial stroma of the inflamed sinus wall, and invasion of the lymphatic system by dead cells — tissue phagocytes slain in the line of duty and carrying within the vacuoles of their protoplasm germs still vicious enough to produce lymphangitis and glandular inflammation extending along deep pharyngeal chains as far as the mediastinum — such are direct consequences of focal infection from the sinuses. Such infection, however, varies not at all from focal infection arising from the prostate, the uterine cervix, or intestinal diverticula; and its control, once established in the fine capillary networks of joint articulations, of the iris and ciliary body, and elsewhere, lies with the immunologist in collaboration with the ophthalmologist, otolaryngologist, orthopedist, gynecologist or urologist who may attack the local source of trouble.

NASAL ORIGIN

Headaches and neuralgias of nasal origin are most annoying to many sufferers. Locations of such pain are rather characteristic: maxillary sinusitis, the forehead over the eye; frontal sinusitis, on pressure below the inner end of the eyebrow, referred up to the parietal region, usually in the forenoon; ethmoiditis, as if the eyes were being pressed apart; and sphenoiditis, referred to the occiput, shoulder, and especially the mastoid region of the affected side. Nasociliary neuralgia, due to blockade of the nasofrontal duct by septal deviation, small bony tumors, or fractures of the bridge of the nose, is felt in the same region as frontal sinusitis. Conditions causing inhibition of proper vasomotor control in the nose through the sympathetic system, often referred from distant regions through the sympathetic plexuses to the sphenopalatine ganglion, may be due to the menopause, to uterine malposition or enlargement, especially retroversion or increased size and weight due to fibroids or old endometritis, or (in association with attacks of mucous colitis) to glandular hyperplasia of the large bowel, often associated with sacculation and lodgment of fecal masses. Herein are included and associated many cases of endocrine disfunction, notably hypothyroidism.

DEFENSE BALANCE

Over against this lugubrious catalogue of dangers besetting our upper respiratory and digestive tracts, let us now balance up the defenses **arranged by nature for our survival . . .** Most of us begin life with good general resistance, which has come down to us in the germ plasm of long-living forbears; but others have from the start relatively poor constitutions and fall a prey to every intercurrent ill. Personal habits — and this includes family habits and dietaries learned by or imposed upon children — have a lot to do with this matter of individual immunity to disease. Climatic conditions, such as cold wet winters, predispose some people to serious nasal and tracheobronchial trouble, while others react well and thrive under such adverse conditions. Occupational exposures, as to irritant dusts or gases, of course require special precautions, ventilating devices and inhalers or masks.

Our most vital defensive apparatus lies, however, in the normally functioning linings of the nose and throat. The nose and its sinuses are lined by ciliated epithelium, moistened by a film of thin, tenacious mucus secreted by goblet cells and serous glands, which moves smoothly, rapidly and continuously along the walls of every sinus, backward down the turbinates and downward in the pharynx until it reaches smooth epithelium and is carried into the oesophagus.

BACTERIA RESISTANT

This mucous film contains antibodies which are elaborated in the epithelial cells, and is thus highly resistant to bacteria. Under normal circumstances the sinus cavities are practically sterile. This mucin film constitutes our **first line of defense** against dust and germs, changing as it does every fifteen or twenty minutes, day and night. The **second line of defense** is the ciliated epithelium, normally beating backward like wheat blown by the wind, and provided with numerous glands. The **third defense line** is contained in the submucosal stroma, which is highly vascular over the turbinates and can thus be reinforced by a rapid influx of blood when cold, dust, or chemical irritants or inhibitors interfere with or stop ciliary action. Within the sinuses, however, this submucosal stroma is extremely thin and lacking in blood supply; hence the resistance of the sinus membranes is relatively low. Contained in the submucosal stroma are numerous fixed connective tissue cells, the histiocytes, which are endowed with phagocytic powers and are mobilized to take care of irritative substances, germs and toxins which have passed the mucin film and the ciliated epithelium. Such tissue phagocytes, after they are called into action, either migrate through the epithelium with their loads of phagocytized material, or are carried away by the lymphatic vessels. Some, remaining in the tissue, become fibroblasts and start the work of fibrous repair.

NASAL LYMPHATICS

Nasal lymphatics are numerous in the turbinates and septum and comparatively few in the sinuses. With severe infection they tend to become choked with phagocytic and other broken down cells, which are carried to the deep cervical and pharyngeal glands along the spine and under the sterno-cleido-mastoid muscle, giving rise to stiff neck and localized tenderness in these regions, and occasionally to deep cervical suppuration. Chocking of sinus lymphatics, passing out of their ostia, leads to edems, thus further impeding proper drainage from these cavities. Visible lymphatic defense is also shown by enlargement of the adenoid mass, the faucial tonsils, and the follicular lymph glands of the posterior pharyngeal wall.

From the retropharyngeal lymph nodes directly

there is possibility of release of infectious organisms into the surrounding tissues. The local histiocytes, becoming active phagocytes, set up tissue reactions in order to wall off the invaders by formation of fibroblasts and connective tissue. If the phagocytes are overwhelmed but the tissue quarantine is rapid enough, a localized abscess may be the result. If the cause of the infection is not stopped locally, in the retropharyngeal region, it may continue downward in the tissue spaces between the oesophagus and the prevertebral fascia, to the upper mediastinum. This anatomic possibility is rare, because of the distance involved and the numerous phagocytic cells along the way, with numerous opportunities thus to localize invading organisms.

EFFERENT LYMPHATICS

Efferent lymphatics from the retropharyngeal nodes drain, however, into the deep superior cervical glands, which constitute a most important part of the main **third line of defense.** The retropharyngeal nodes can be considered as outposts of the deep cervical glands, of which large ones are generally able to cope with infections; but if they also break down, their drainage is into the cervical lymph ducts, which drain into the thoracic duct or the right lymph duct, and thus into the great veins tributary to the superior vena cava. Efferent drainage from the cervical lymph nodes thus reaches the right heart, and from this point the pulmonary capillary bed.

The pulmonary capillary bed, the bronchial lymph follocles, and especially the bronchial and tracheobronchial lymph nodes, constitute together a **fourth barrier** to material from the upper respiratory passages, if such material succeeds in getting beyond the superior cervical lymph glands. Material that enters the trachea and lungs directly, as by dripping from the upper passages, or with the inspired air, meets the phagocytic septal and "dust" cells lining the septa of the air sacs without passing through the capillary endothelium. Such phagocytic cells, actually histiocytes, would in the case of such inspired material constitute a **first line of defense.** Goblet cells and ciliated epithelium in the respiratory bronchioles and larger air passages undoubtedly serve the same protective function here as in the upper respiratory tract.

DECISIVE BLOW

Arterial blood, through its oxygen content and its load of active circulating leukocytes, furnishes the **final, decisive blow** to organisms which have passed on through the lung capillaries and have been pumped on into the liver and the spleen. Immune bodies arising from previous exposure to various pathogens or from artificial immunization are present in the blood plasma and set up further barriers to attack.

The reflex mechanism of sneezing and cough is another valuable defense aid. In the nose sensitive areas on the upper septum and anterior turbinal seem designed to protect the olfactory fissure high above. In the lung, the carina and each bifurcation of the major bronchi have special end organs which set off the cough reflex, thus getting rid of mucus, dust or other foreign matter.

From these discursive observations it may be gathered that no sort of specialist — otolaryngologist, allergist, immunologist or what not — is solely qualified to pass on the defense mechanisms by which our noses and throats keep out of trouble. The general practitioner must certainly train himself by painstaking observation for early recognition of many sources of danger. Particularly is this necessary in cases of hoarseness. Possession of climatic advantages does not absolve the physician for failure to spot an early cancer of a vocal cord, or — even more serious — early roughening of the cords in pulmonary tuberculosis.

The prophylaxis of upper respiratory disease should be well understood by every doctor. Remembering the nasal and tracheobronchial mucus, ciliated epithelium and connective tissue stroma as our three first lines of defense, we must preserve the functioning of these mechanisms. We must avoid sudden or long-continued lowering of body temperature by exposure — long rides in open cars, winter sports, swimming and diving. Sitting around in a conventional wet bathing suit lowers body temperature half a degree an hour. (Perhaps this has been responsible for the reduced volume of recent bathing costumes.) Driving home in a wet bathing suit with hair damp from swimming, or after a warm shower with plenty of drinks in the locker room when tired from thirty-six holes, may be responsible for a lot of trouble. Swimming teachers now insist on proper breathing habits—inhaling through the mouth, exhaling through the nose — and people who have not learned how to keep water out of the nose should not dive, or swim with the crawl or side stroke. Washing away the protective mucous film, water may carry harmful bacteria from the highly vascular and resistant breathing spaces deep into sinus cavities where resistance to infection is low. Retained water in a sinus, or in the eustachian tube, leads to edema and loss of epithelial cells and favors germ invasion, and sinusitis or ear involvement.

DRYING DANGER

Drying up of cilia by lack of humidity, as in overheated buildings lacking water-pans, or during hot, dry winds, or from excessive cigaret smoking, increases the vulnerability of individuals not only to their own germs, but also to those of others suffering from colds or sinus disease. Conversely, too great or too rapid reduction of indoor temperature by cooling systems may predispose sensitive individuals to chilling and eventual infection.

Dental prophylaxis should obviously include close scrutiny, electrical testing and roentgenograms of all dead, crowned, crowded or otherwise suspicious teeth whose roots may adjoin the maxillary antrum.

Persons with narrow or obstructed noses should be given free and open breathing, by operation if necessary. Septal twists or thickenings, especially when obstructing the nostrils or pressing upon the middle turbinates, should be restored to normal position and thickness in people with recurrent sinus disease. Occasionally in allergic persons the presence of swollen turbinates and of occlusive polypoid growths may so dam up sinus drainage that secondary purulent involvement of the sinuses occurs.

ALLERGIC IRRITANTS

In such cases, not only must the allergic irritant (whether house dust, animal emanations, food or pollen) be identified and avoided; sensitiveness to predominant bacteria from the spheno-ethmoidal region should be determined; but under no circumstances should the warming and moistening function of any of the turbinate structures be ruined by their removal.

Let us frankly acknowledge that we cannot yet diagnose or cure the virus diseases, including the "common cold". However, if we help nature to do her duty, and do not interfere with her too much, she will take pretty good care of us. For, as George Draper once said:

"It is well now and then to take stock of our accomplishments, lest we become either complacent or arrogantly satisfied with what today, as well as at every past moment in our professional history, has been called modern medicine."



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and EL PASO COUNTY MEDICAL SOCIETY

Vol. XXXI JUNE, 1950 Number 6

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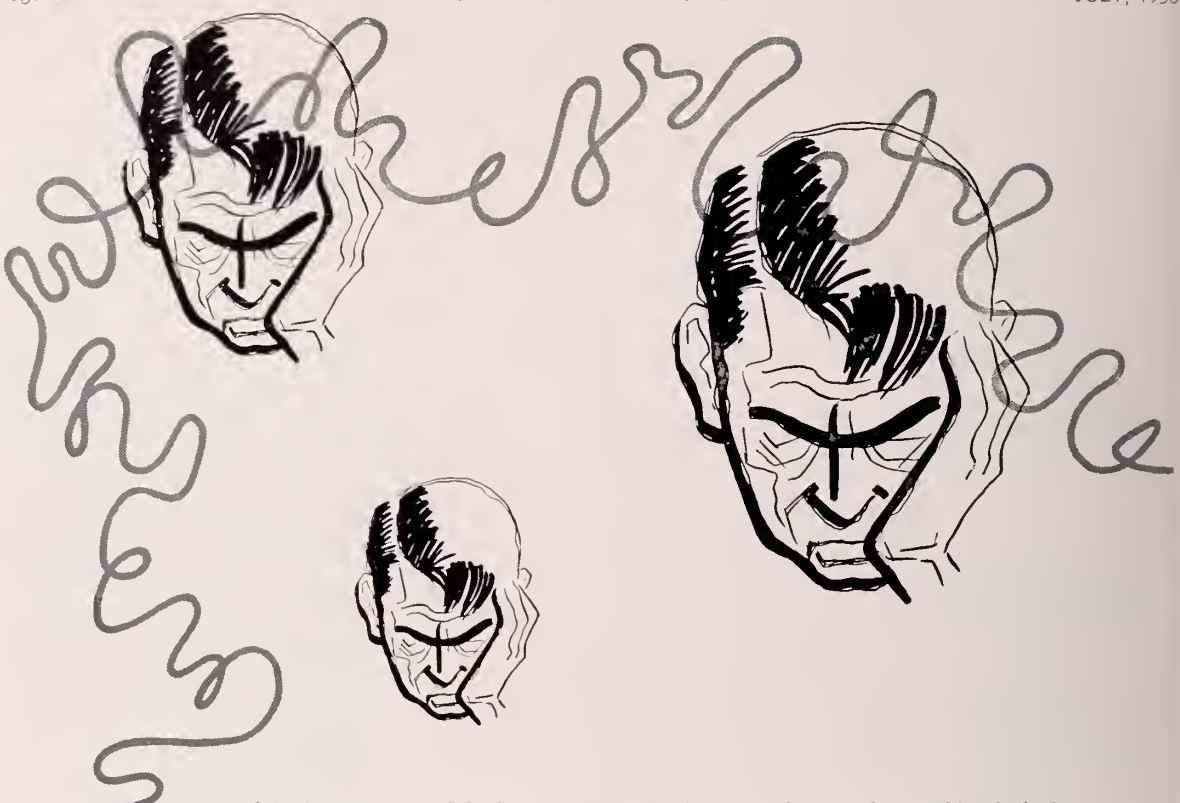
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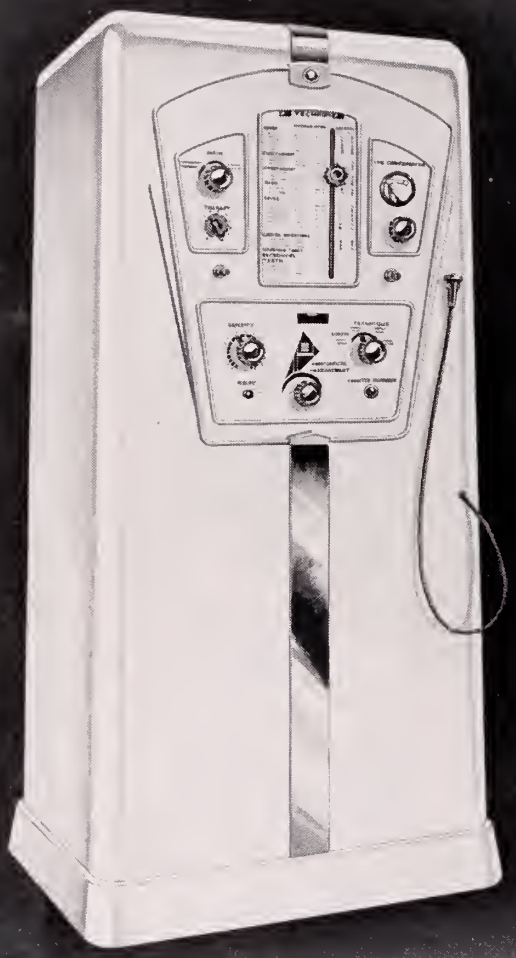
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ANTISTINE-PRIVINE, aqueous solution of Antistine hydrochloride 0.5%, and Privine hydrochloride, 0.025%, in bottles of 1 fl. oz. with dropper.
DOSAGE: 2 to 3 drops in each nostril 3 or 4 times daily.

PRIVINE hydrochloride, 0.05% solution in 1 pint and 1 oz. dropper bottles for prescription; 0.1% solution reserved for office procedures, in 1 pint bottles only.

1. Friedlaender & Friedlaender: Amer. Pract. 2:643, June, 1948

Ciba PHARMACEUTICAL PRODUCTS, INC., SUMMIT, NEW JERSEY
ANTISTINE® (brand of antazoline); PRIVINE® (brand of napbazoline) 2/1561M



"Sweet is pleasure after pain" — as Dryden put it — might well be a description of the welcome relief from discomfort which is bestowed upon injured skin or the mucosa of the genito-urinary and rectal areas by 'Surfacaine' (Cyclomethycaine, Lilly). A single topical application usually produces anesthesia lasting up to eight hours. Its low toxicity, however, permits more frequent use in extremely severe conditions. Available in a wide variety of effective forms:

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A HOPEFUL SIGN

In these hectic days when the economic philosophy of the government is such that it is viewed with alarm by numerous substantial men, it is refreshing to note that, in the 16th Congressional District of Texas, all three aspirants for the Congressional seat are unalterably opposed to socialized medicine. When the government sets its course in such a manner that it attempts to defend deficit spending, it becomes the duty of all public spirited individuals to exercise their franchise. When a government by its actions indicates it believes that a deficit is actually an excellent policy because it makes for more purchasing power, and this in turn makes for more business, one must pause and reflect seriously on this rather socialistic economic philosophy.

In order that socialism gain a foothold it must have roots, and these roots by all indications are manifested by the attempt to control the physician, and in turn the health of the nation. The Honorable Ken Regan, Congressman from the 16th Congressional District of Texas has been and still is unalterably opposed to socialized medicine in any form. His views as regards socialized medicine have been heard in Congress, and SOUTHWESTERN MEDICINE in a recent issue has published his views in full. In the coming Democratic primary, Mr. Regan is opposed by two candidates, Mr. Fred Hervey, and Judge Paul Moss. In order that fair play be maintained, the Editorial Board of SOUTHWESTERN MEDICINE believes that its readers should know the views of all concerned, and considers it a privilege to publish the following statements:

Fred Hervey Candidate for Congress from the 16th District of Texas, says:

"I am unalterably opposed to socialism in all its forms. Therefore, I am unalterably opposed to socialized medicine. I believe the American people are now solving the problem of medical costs. Nationwide group hospital-medical insurance grows by leaps and bounds. Costs to the individual decrease. Benefits increase sharply. This is the American, the Texan way. I believe our people, allowed to work things out their own way, are capable of solving any problem concerning their own welfare without reference to foreign political doctrines."

Judge Paul Moss in a letter to your editor makes his position very plain. He states:

"I have made every county seat in the nineteen counties in the 16th Congressional District, and find practically no sentiment in favor of socialized medicine. West Texas will be the last place to advocate socialized medicine. As stated in my opening campaign speech, April 8, I am not in favor of socialized medicine, and I will oppose any form of legislation for compulsory health insurance."

It is apparent that West Texas opposes socialized medicine, or any other form of socialism, and it is safe to say that its neighbors, Arizona and New Mexico, undoubtedly have the same views. It might be well, however, for the medical profession in the aforementioned states to solicit the views of their candidates for Congress; because, in the final analysis, it is the medical profession, not the politicians, who must insure the health of the community.

Disaster and Welfare Agency

Gen. George C. Marshall, recently appointed President of the American Red Cross, "now turns his wisdom, experience and great heart to guide the official humanitarian arm of the military forces and the nation's foremost disaster and welfare agency." — New York Herald Tribune.

Community Rheumatic Fever Programs

Undoubtedly, the best approach for the control of rheumatic fever and rheumatic heart disease is a community program such as that advocated by Rutstein* in a pamphlet released by the American Heart Association in January, 1950. The following benefits to the community are stressed:

1) Prevention of Acute Attacks of Rheumatic Fever — Treatment of streptococcal infections with penicillin will prevent subsequent attacks of rheumatic fever if the prophylactic treatment with penicillin is begun promptly after onset of the streptococcal infection.

2) Precise Diagnosis — Because rheumatic fever is a difficult disease to diagnose, even for the expert, and because there is harm if it is either over-diagnosed or under-diagnosed, a consultation service by physicians specially trained in rheumatic disease would be of great value to both the patient and his private doctor.

3) Proper care of Patients, in All Stages of Rheumatic Fever — A survey of community facilities, leading to coordination of effort and better organization, would promote the best use of facilities to give the most satisfactory handling for individual cases. Such patient care should include case finding and registration, as well as hospitalization and provision for home nursing as indicated.

4) Prophylaxis of Recurrent Attacks—This phase of the program, in addition to the prophylactic use of sulfonamides, penicillin or aureomycin, could stress the advantage to the individual patient of isolation from possible contact with streptococcal infections. Such protection might be at the home level or in an institution.

5) Prevention of Subacute Bacterial Endocarditis — Special arrangements could be provided for any rheumatic fever patient requiring operative intervention, especially for extraction of teeth, tonsillectomy, operations on lower gastrointestinal tract, or for a pregnant woman at time of delivery. The proper isolation and drug therapy could be arranged to protect against invasion with hemolytic streptococci or Streptococcus viridans.

6) Vocational Training and Education — It is difficult for the individual patient in a home to have the right guidance for either vocational help or schooling, but such can be readily handled within a community rheumatic heart program.

CONCLUSION

Rheumatic fever with subsequent rheumatic heart disease has been the most serious disease hazard for the school-age child. The newer approaches to therapy which take into consideration our modern concepts of etiology, together with wise planning for prophylaxis in a carefully organized community health program, should markedly reduce the dangers from this disease. The newer therapeutic agents give promise of soon aiding us to prevent this disease in a high percentage of potential cases.

* Rutstein, D. D.: Heart Disease Programs—Clinical Basis and Organizational Aspects. American Heart Association, 1775 Broadway, New York 19, N. Y., 1950.

Free Rides

The American Red Cross Motor Service clocked up more than 9,000,000 miles last year on assignments for hospitalized servicemen, veterans' military personnel, and civilians, including crippled children and adults, transporting disaster workers and supplies, assisting in the Red Cross blood program and in other Red Cross work.

De Rebus Medicis Et Politicis

BY ROBERT B. HOMAN, JR., M. D., EL PASO, TEXAS
MEMBER OF THE HOUSE OF DELEGATES OF THE AMERICAN MEDICAL ASSOCIATION

REORGANIZATION PLAN NO. 27

David Hinshaw* has written the following choice morsel for American digestion:

"The presidency, first of all, has become an evangelist's pulpit. Over the decades and the generations the presidency has grown into the nation's headquarters for making public sentiment, and after making it to channel it through Congress. Thus the president's job, rightly or wrongly, has become that of leading the American people — all one hundred and fifty million of us, rich or poor, intelligent or dumb, kindly or vicious."

This, of course, means that the executive branch of the Republic has become the sales department. With the help of "advisors", "brain trusters", and bureaucrats, the President, as sales manager, attempts to sell a bill of goods to the American people, chiefly designed to keep the manager and the bureaucrats, et al., employed by the tax-payer.

"FIRESIDE CHATS"

Franklin Roosevelt's "fireside chats" were the epitome of this technique. His "trial balloon" methods through the newspaper columns of Eleanor Roosevelt and other New Deal columnists were a close second. Mr. Truman's advisors know that his type of political address would never do for radio consumption as a "fireside chat". Thus they put him on the road, at the tax-payer's expense, of course, to "tell the truth to the American people". Both techniques have one thing in common. They ask for the purge of the Congressmen, elected by the people, who have the audacity not to believe everything the sales manager says.

In the summer of 1947, Congress approved the Lodge-Brown Act, which authorized the formation of a non-partisan commission, now known as the Hoover Commission, to reorganize our bunglesome and extravagant government. About twenty-five per cent of the recommendations of this great commission have now been adopted by the Congress. If all of them were to be accepted, many billions of dollars would be saved annually, many bureaucrats would be looking for jobs; and Americans would be better served by their elected and appointed officials.

CITIZENS' COMMITTEE

A Citizens' Committee for the Reorganization of the Government Executive Branch was organized shortly after the Hoover Commission reported. This committee, composed of men and women in all walks of life, went to work on the adoption of the commission's report — realizing that only the voice of the people could bring about the vast and important changes recommended. As a result, reorganization of the government became a national and popular issue. A further result was that the administration's advisors saw an opportunity to do a little re-organizing of their own — ostensibly acting on the report of the Hoover Commission.

Reorganization Plan No. 1 was one such distortion of the Hoover Report. It was a coarse attempt to place Mr. Oscar Ewing, the frontman for socialized medicine, in a cabinet post with authority over a "Welfare Department", to embrace medicine, education, and social security. It was not the recommendation of the commission. It was vetoed by the Senate by a vote of 60 to 32, largely through the opposition of the medical profession. Immediately the administration press attacked the doctors as obstructionists to reorganization and to the Hoover Commission report! This was just another attempt of the present administration to discredit the profession — a habit well formed!

MANY AGENCIES

The Commission had found that there are **forty-eight** government agencies spending money for health and medical services! They found no rhyme or reason to hospital construction, maintenance, and occupancy among Army, Navy, Public Health, or Veteran's hospitals. They found federal hospital construction costs ran from $20,000 to $51,000 per bed while private construction cost averaged $16,000 per bed. They found 40% to 50% occupancy of government beds in certain urban areas, with other federal agencies prepared to add more thousands of beds in the same area. The waste, not only of money, but of medical, nursing, and administrative personnel is appalling.

For these reasons, and others, the Hoover Commission recommended a United Medical Administration; which, among other things, would administer all of our federal hospitals in this country. This administration should be under the director of an administrator, who would see to it that existing facilities, both public and private, are used and who would also have responsibility for developing plans for new hospitals on something other than a hit-or-miss basis.

PROCEDURE

Under the act, the President may submit reorganization plans to Congress effecting any department of the Executive Branch. Unless a plan is vetoed by resolution in either the Senate or the House, within 60 days after submission, the plan becomes effective.

On May 31, 1950, Mr. Truman submitted Reorganization Plan No. 27 to the Congress. It is almost identical with the defeated Reorganization Plan No. 1. Plan No. 27 would create a "Department of Health, Education, and Security", headed by a Secretary of Cabinet rank. The sales manager has simply dropped the "Welfare Department" but he still has his eye on Mr. Ewing as a cabinet Officer.

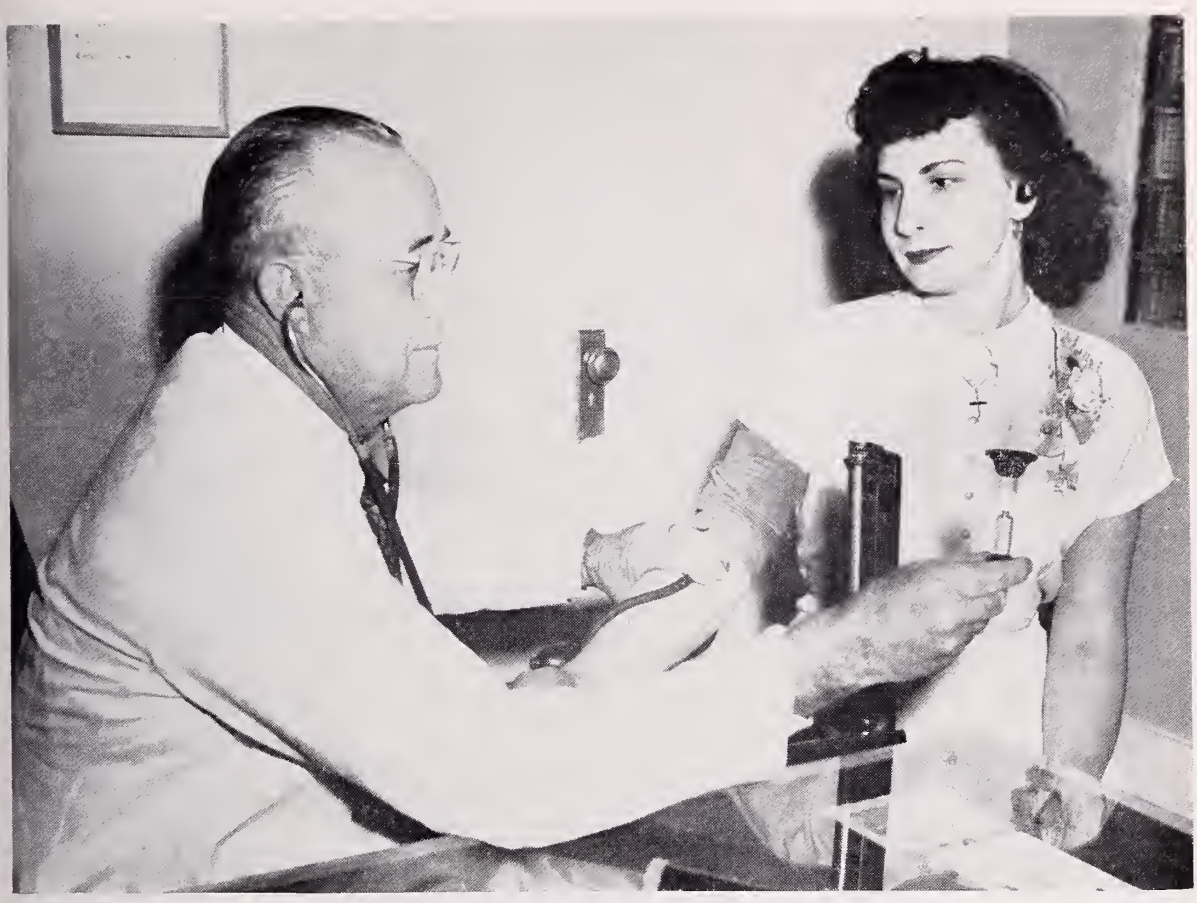
NO MENTION

In this latest plan there is no mention of the "United Medical Administration" recommended by the Hoover Commission. This was to be a single independent agency to administer medical problems. For this reason the Citizen's Committee for the

(Continued on Page 230)

* Author of the new book, "Herbert Hoover, American Quaker". Farrar-Straus & Co.

EGG TIMER MEDICINE



Dr. Ralph H. Homan, president of El Paso County Medical Society, administers the three-minute egg-timer treatment to a pretty patient who is being cured of all thoughts of socialized medicine.

Jerry Harris, Manager of the Creditors Service Bureau of El Paso, is well known to the medical profession of the Southwest. Mr. Harris is a businessman, and a devout advocate of free enterprise. Recently he has in a very unique manner expressed his distaste for state-controlled medicine. He is presenting to each interested practitioner of medicine a simple egg timer which he may place in a conspicuous place in his office. He has also placed in the hands of physicians copies of the following memorandum to be presented to patients:



THIS IS AN EGG-TIMER.

It takes three minutes for the sand to flow from the top to the bottom. Hardly time enough to turn around, is it?

And yet, in England, under socialized-medicine, *three minutes is the average time most doctors can give each office patient!*

Three minutes may be long enough to boil an egg, but having only three minutes to consult with a doctor, receive his diagnosis and have him prescribe, is not what *YOU* want for yourself and family, is it?

Look at it this way. When you hear them say "free" medicine, you ought to understand they're only kidding. *Someone* has to pay for it. Know who that will be? Yes, you've guessed it—*YOU!*

And in more than one way, too. Not just in additional taxes, for you'd have to expect those immediately. In addition, you'd be sacrificing your right as a citizen to select the physician of your choice.

You'd be losing the benefit of the research that has placed America in the forefront of medical discovery and in tremendous advances in conquering dread diseases.

Under our free enterprise system, we lead the world in more hospital beds per capita population, in a vastly lower death rate and a greater life expectancy.

Were we to accept the stumbling, fumbling British system in place of this, what would happen?

EGG-TIMER MEDICINE!

Is that what *YOU* want? We think NOT.

SOUTHWESTERN MEDICINE takes this opportunity of thanking Mr. Harris for his interest in the preservation of good medicine, and sincerely hopes that its readers will avail themselves of his offer. It is dramatic. When the patient watches the sand flow, and begins to realize that in three minutes his visit with his physician is finished, he then at least has doubts as to the ability of his physician's rendering him the type of service which he desires.

NEW ECTOR COUNTY HOSPITAL



This handsome new Hospital located in Odessa, Texas, one of the Southwest's fastest growing cities, was built by Ector County officials without the aid of either private or federal contributions.

SOUTHWESTERN MEDICINE wishes to extend its heartiest congratulations to the citizens of Ector County on the occasion of the activation of the Ector County Hospital. This is indeed a unique project; for this hospital was built and paid for by Ector County without federal financial aid, and without voluntary donations. The physical plant is most modern, and was built at a cost of one million dollars. Its equipment leaves nothing to be desired and furnishes adequate facilities for expert medical care.

The County Commissioners may well be proud of their part in the realization of this fine institution, because to realize such an undertaking entails considerable work. The members of the commission are: H. R. Bethel, Tine Davis, W. W. Orchard, and O. E. Gerron. Judge Stoker heads the commissioners court. Other officials who work closely with the court are County Auditor J. C. Hamilton and County Treasurer S. R. McKinney.

The management of the hospital is directed by a lay board of hospital managers. Chairman Hardwick, Vice Chairman Charles B. Perry, Secretary W. Mapp and members Gene Cody, Paul Salter, and H. L. Cooper, with Judge Stoker serving as an Ex Officio Member, constitute the Board of Managers.

The administration of the hospital is directed by C. C. Gibson. Mr. Gibson with his trained and efficient personnel has been able to give the citizens of Ector County an institution of which they can be justly proud.

The medical staff is headed by Dr. J. K. Wood with Dr. O. A. Fulcher serving as vice president, and Drs. Thomas B. Abney, Gordon V. Lillie and Ranier as executive members. Twenty-two doctors are on the staff. The city of Odessa is one of the most progressive and most rapidly growing communities in the Southwest, and its civic pride cannot help from being enhanced by this institution. The doctors of Odessa are to be congratulated, as this represents a forward step in the practice of good medicine under the system of free enterprise. If we are to maintain the high standards of the profession, we must all go forward and not be satisfied with anything except the most modern and best.

The citizens of Ector County have amply demonstrated that they had faith in the medical profession, and have no wish to have the Federal Government enter into the practice of medicine. This is as it should be, and constitutes a hopeful sign in the right direction.

Contraindications to Dicumarol Therapy

The contraindications for using dicumarol must always be clearly recognized. They may be summarized:

1. In renal disease the effect of dicumarol may be abnormally prolonged and difficult to control and therefore should not be used.

2. In ulcerative lesions and open wounds including ulcerative colitis, and also in patients undergoing tube drainage of viscera.

3. In patients with recent operations on the brain or spinal cord hemorrhage might be disastrous.

4. In deficiency of vitamins C or K; in liver disease with prothrombin deficiency; and in blood dyscrasias or purpura.

5. In subacute bacterial endocarditis because the hemorrhagic tendency is increased.

6. In patients with hypertension having retinopathy.

"Thrombophlebitis" — Fay Le Fevre, M. D., Department of Cardiorespiratory Disease, Cleveland Clinic Quarterly, January, 1950.

SOME CURRENT PROBLEMS IN DIAGNOSIS AND MANAGEMENT OF PNEUMONIA*

By Elias Strauss, M. D., Dallas, Texas**

The falling death rate from pneumococcal pneumonia and the equally remarkable decline in the incidence of this disease attest the efficacy of modern chemotherapeutic and antibotic agents. Nevertheless, the use of these drugs does not exempt the practitioner from his responsibility for accurate diagnosis, nor does it always solve the problems of management of pneumonia. Indeed there are not uncommon instances in which the use of potent therapeutics adds to the difficulties and complexities of diagnosis and management.

Intelligent treatment is based upon etiologic diagnosis. In hospital practice, pre-treatment blood culture and culture of the sputum should be obtained, although it is not necessary to await the results of these tests before therapy is undertaken. At the present time, blood cultures yield information of value in prognosis only in exceptional circumstances; and hence, they may generally be omitted, when difficult to obtain, without prejudice to the patient's welfare. However, the value of properly performed sputum examinations cannot be overstated. The sputum should be streaked on the surface of a blood agar plate; and, after suitable incubation, the predominant flora identified.

This practice enables one to recognize the unusual cases of staphylococcus and Friedlander bacillus pneumonia, which cannot be expected to respond to treatment with penicillin. There are few patients who produce no sputum, when the effort is made to obtain it; and there are few laboratories so ill-equipped that cultures cannot be made. When circumstances do not permit cultural studies, the practitioner may still obtain information of value in the diagnosis and management of pneumonia, if he himself will examine a simple gram-stained smear of sputum to determine whether the bacterial flora is pre-dominately gram-positive or gram-negative.

It should not be forgotten that the bacterial flora may change during the course of pneumonia and as a result of treatment. This point is illustrated in the first case to be presented.

* Read before the Texas Academy of Internal Medicine, Dallas, Dec. 10, 1949.

** From the Department of Preventive Medicine and Public Health, Southwestern Medical College, Dallas, Texas.

REPORT OF CASES

CASE 1

An 18-year-old colored boy was admitted to Parkland Hospital on October 7, 1949. For three days he had been feverish, weak and dizzy with pain in the right side of the abdomen. Later, the pain involved the chest and was aggravated by breathing and coughing, and he began to raise blood-streaked sputum. When admitted he appeared acutely ill, dyspneic, splinting the right side of the chest, and had a temperature of 102.6, pulse rate of 100, and respiratory rate of 30 per minute. Signs of lobar consolidation and pleural friction rub were elicited over the middle of the right side of the chest. The blood culture yielded

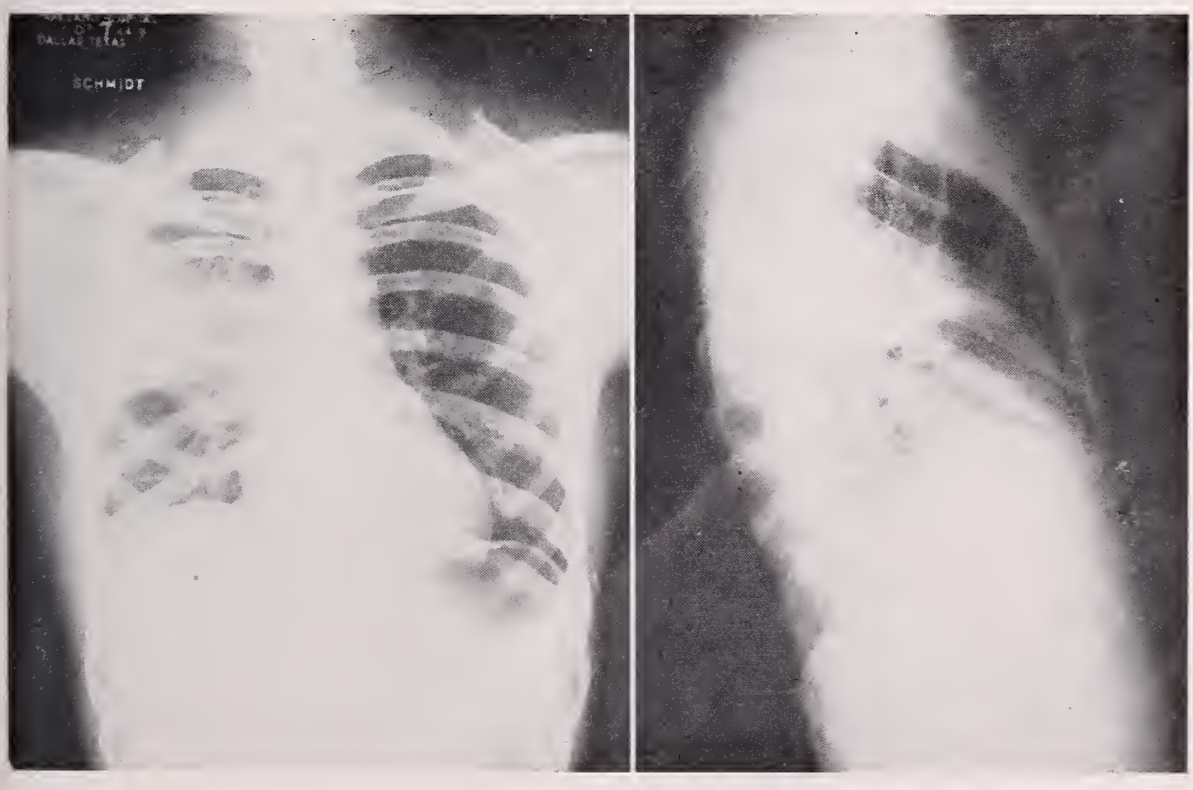


Figure 1. Case 1. Postero-anterior and lateral views of chest on admission to the hospital. Note lobar consolidation involving lower portion of right upper lobe.

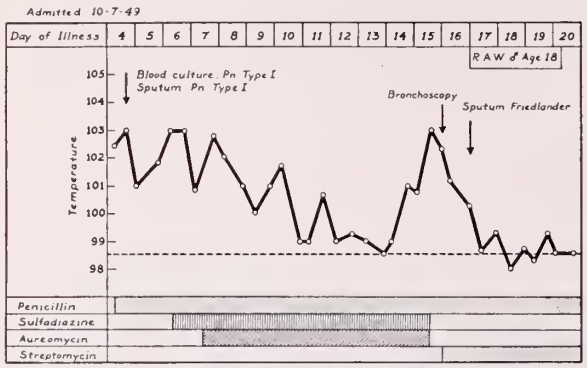


Figure 2. Case 1. Lobar pneumonia due to pneumococcus type 1 with slow or doubtful response to penicillin, sulfadiazine and aureomycin. Recurrence of fever and spread of pneumonia associated with finding of Friedlander bacilli in sputum. Response to streptomycin.

pneumococcus, Type 1, and the sputum culture also revealed pneumococcus, Type 1, as the predominant bacterial organism. The leukocyte count was 12,000 cu.mm. with 88% polymorphonuclear leukocytes. The results of urinalysis were not unusual. X-ray examination of the chest revealed lobar consolidation involving the lower portion of the right upper lobe (Figure 1). The course of illness, and the treatment given are depicted graphically in Figure 2.

Penicillin was injected intramuscularly, 100,000 units every 6 hours. However, after 48 hours of this treatment the patient still appeared acutely ill, the temperature was 103 degrees, and physical signs and x-ray studies indicated a spread of the disease to the right middle and lower lobes. Accordingly, sulfadiazine was administered by mouth, beginning with an initial dose of 4 grams and then one gram every 4 hours. He continued to receive penicillin also. Despite this combined therapy, and with blood concentrations of 12 to 14 mgs per cent of sulfadiazine, no clinical improvement was observed.

At this point aureomycin was administered, 4 grams a day in divided doses, while both penicillin and sulfadiazine were continued. The temperature then gradually declined and reached normal on the 7th hospital day.

Fever recurred several days later and on the 11th hospital day, the temperature rose to 103 degrees. Decision was required as to whether this represented drug fever or a complication of the infection. Treatment with aureomycin and sulfadiazine was discontinued. Because of the possibility of atelectasis, bronchoscopy was performed with aspiration of inspissated secretions from the middle and right lower lobe bronchi. At this time it was observed that the sputum, which at the time of admission was thin and blood streaked, had now become purulent, copious and very tenacious. Gram-stains of the sputum revealed a predominance of gram-negative coccobacilli.

Cultures subsequently showed that the pneumococci had disappeared, and that the chief organisms present were Friedlander bacilli (Klebsiella). Ac-



Figure 3. Case 2. Left: November 15, 1948. Diffuse bilateral broncho-pneumonia due to leptospirosis (Weil's disease).

Right: Dec. 23, 1948. Complete recovery; clear lung fields.

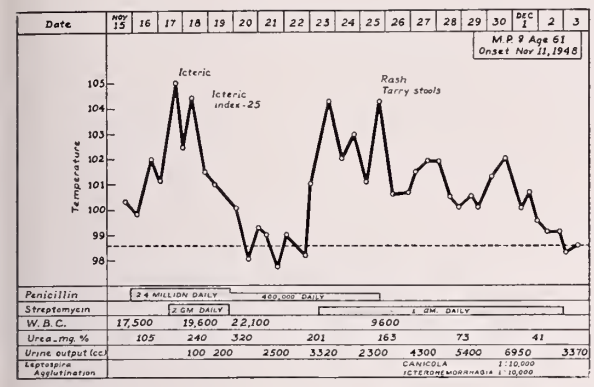


Figure 4. Case 2. Weil's disease. Note time of appearance of jaundice and of bleeding tendency in relation to onset. Azotemia and oliguria prominent features. Diagnosis established by serological tests.

cordingly, the patient was now treated with streptomycin, with slow resolution of the pneumonia and gradual decrease in the amount of sputum.

COMMENT

This case was instructive in several respects. It is apparent from inspection of the temperature chart that the disease was not obviously influenced by penicillin. Likewise, it would be difficult to prove that either sulfadiazine or aureomycin were responsible for the favorable outcome. In fact the temperature returned to normal by lysis at about the anticipated time, even if no specific treatment had been given. Although it is sometimes difficult to explain, the fact is recognized that some patients with proved pneumococcal infections respond slowly and incompletely to treatment with penicillin. The usual clinical rule-of-thumb that pneumonia which does not respond favorably to penicillin within 48 hours is "virus" pneumonia is by no means a safe guide for diagnosis or treatment.

This case also illustrated the problem of differentiation between drug fever and a complication of the disease itself. This is a problem which increases in difficulty as polyvalent antibiotic therapy becomes more popular. In this instance three drugs were being administered, any one of which could have been responsible for the recurrence of fever.

Finally, the case demonstrated a phenomenon which is becoming more prevalent since the use of potent chemotherapeutics, namely, the replacement of one species of bacteria by another, resulting in perpetuation or recrudescence of the disease. Penicillin is so potent a bactericidal agent against most gram-positive cocci that it is capable of eliminating them, or nearly so, from the respiratory tract. Under such circumstances, and for reasons which are as yet obscure, gram-negative flora may become pre-dominant and may, in themselves, and as in this case, perpetuate the infection. A number of cases of this nature are already on record (1) and more will be found

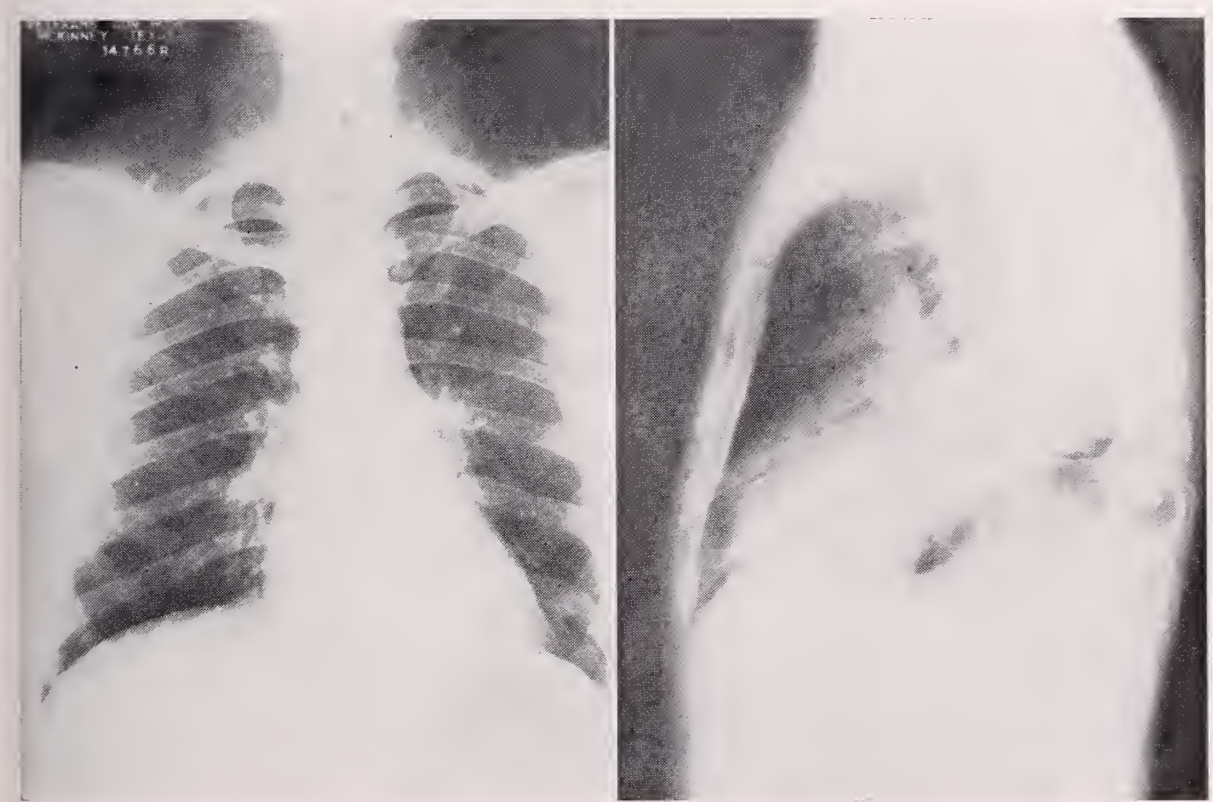


Figure 5. Case 3. Tularemic pneumonia. Note that in postero-anterior view lesion behind the cardiac shadow is not readily apparent. In lateral view, wedge-shape consolidation in left lower lobe can be seen.

Table 1. — Choice of Antibiotics Today (Nov. 1, 1949) in Infections by Microorganisms

	Penicillin	Streptomycin	Aureomycin	Chloramphenicol
1. Pneumococcus (Pneumonia, Mastoiditis, Meningitis)	A	C	B	C?
2. Streptococcus				
a. Group A beta hemolytic (most human infections)	A	C	B	0
b. alphahemolytic or viridans (SBE & chronic infections)	A	C	B	0
c. Group D, "entero-cocci" (strep. fecalis)	B	0	A	0
d. Anaerobic (post-partum, skin infections, pneumonia & empyema)	A	--	--	--
3. Staphylococcus	A	0	B	0
If severe infection such as bacteremia	A+	0	B+	0
4. B. anthracis (Anthrax)	A (+S.D.)	0	--	--
5. Clostridia (Gas Gangrene, tetanus) (Surgery of most importance here)	A (+S.D.)	0	--	?
6. M. tuberculosis	0	A (PAS)	0	0
7. Meningococcus	A (+S.D.)	0	B? (1 case bacteremia)	--

Legend: A, first choice; B, second choice; C, third choice; D, fourth choice; 0, of no value; (--), value is unknown; (?), indicates choice is questionable because cases reported are too few; (+), indicates combined therapy necessary. S.D. = sulfadiazine. S.M. = sulfamerazine. PAS = para-aminosalicylic acid. S.A. = sulfacetimide.

when physicians learn to recognize the phenomenon. Only by repeated cultural studies and examinations of stained smears can this be detected and appropriate therapy instituted.

The following two cases illustrate the point that pneumonia may be caused by a great variety of infectious agents. There is often a tendency to oversimplify the etiologic varieties of pneumonia and to think of them in terms of either pneumococcal or "virus" types. When looked for, many other causes of pneumonia can be found.

CASE 2

A 61-year-old woman was admitted to Parkland Hospital, critically ill, on Nov. 11, 1948. All that could be obtained from relatives of the patient was the information that she had shaking chills 4 days before admission and since then had high fever, muscle aching, increasing respiratory distress and finally became semicomatose.

When admitted the patient had a temperature of 99 degrees, pulse rate of 120 per minute, and a respiratory rate of 80 per minute. She was an obese, cyanotic and severely dyspneic woman. Moist sticky rales were detected throughout both lung fields. The liver edge was palpated 2 finger-breaths below the costal margin. X-rays of the chest were interpreted as showing bilateral bronchopneumonia, although the possibility of pulmonary edema was also considered (Figure 3). The graphic temperature chart and pertinent laboratory data are recorded in Figure 4. It was at first considered that the patient was in congestive heart failure. However, rapid digitalization was accomplished without symptomatic benefit.

The temperature rose to 105 degrees on the 3rd hospital day; and at this time the skin and sclerae were visibly but slightly icteric. For a time, the possibility of acute pancreatitis was entertained. The temperature returned to normal, rose again by the 8th day to 104 degrees and then slowly fell to the normal level. During most of this time the patient was in a shock-like state. The outstanding therapeutic problem centered about the maintenance of water and electrolyte balance. Azotemia was present throughout the course of illness. The blood urea was 105 mgs% at the time of admission and rose on the 6th hospital day to 320 mgs%.

Severe oliguria, with 24 hour urine volumes of 100 to 200 cc. were present in the early stages of the illness; later as the azotemia subsided, a diuresis was recorded. The urine contained considerable quantities of protein, many red blood cells, and many granular and hyaline casts. On the 9th hospital day a non-descript generalized skin eruption was observed and on the same day, several tarry stools were passed.

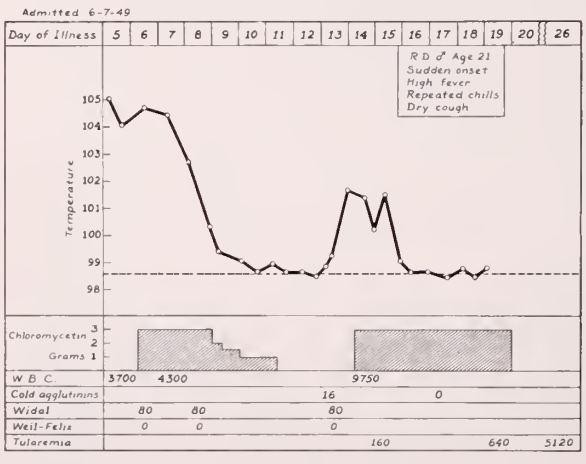


Figure 6. Case 3. Tularemic pneumonia. Response to chloromycetin, relapse when therapy discontinued, and response when re-administered.

Table 2. — Choice of Antibiotics Today (Nov. 1, 1949) in Infections by Microorganisms

	Penicillin	Streptomycin	Aureomycin	Chloramphenicol
8. Gonococcus	A (S.D.)	B	C	C
9. Pertussis	0	--	A (in mice)	? (A in vitro)
10. H. Influenzae				
Moderate	0	0	A	--
Severe (Meningitis)	0	B (+S.M. or S.D.)	A (+S.M. or S.D.)	--
11. Klebsiella pneumoniae (Friedlander's, B. mucosus capsulatus)	0	A (S.M.)	0	B?
12. Aerobacter aerogenes (B. lactis aerogenes)	0	B	A	A
13. E. Coli	0	B	A	A
14. E. typhosa	0	0	B	A
15. Salmonella Group (Paratyphoid)	0	0	C	A
16. Dysentery Bacilli	0	0	--	A??
17. B. tularense (Pasturella tularense)	0	B	A	A?
18. B. pestis (Pasturella pestis) (plague)	0	A	--	--
19. Brucella (Acute stage) (Undulant Fever)	0	0	A	A

Legend: A, first choice; B, second choice; C, third choice; D, fourth choice; 0, of no value; (--), value is unknown; (?), indicates choice is questionable because cases reported are too few; (+), indicates combined therapy necessary. S.D. = sulfadiazine. S.M. = sulfamerazine. PAS = para-aminosalicylic acid. S.A. = sulfacetimide.

Table 3. — Choice of Antibiotics Today (Nov. 1, 1949) in Infections by Microorganisms

	Penicillin	Streptomycin	Aureomycin	Chloramphenicol
20. Pseudomonas Aeruginosa (B. pyocyaneus)	0	A	0	A or B
21. Proteus vulgaris	0	B	0	A
22. Ducrey's bacillus (chancroid)	0	A	A	0
23. Rickettsiae (typhus, scrub typhus, Rocky Mt. spotted, Q. fever, Rickettsial pox)	0	0	A	A
24. Ornithosis (Psittacosis)	B	0	A	A?
25. Lymphogranuloma Venereum	B	0	A	A
26. Virus of atypical Pneumonia	0	0	A	A
27. Virus of Influenza	0	0	0	0
28. Common Cold	0	0	0	0
29. Rat Bite Fever (Haverhill Fever)				
a. Spirillum minus	B	0	A	--
b. Streptobacillus monoliformis	0	A	--	--
30. Treponema				
a. Syphilis	A	0	B	0 (in vitro & in animals)
b. Yaws	A	0	--	--
31. Leishmaniasis (Granuloma inguinale, Oriental sore)	0	A	A	A
32. E. histolytica	0	0	A	0
33. Trachoma	A (or S. D. orally or S. A. locally)	--	A (local)	--

Legend: A, first choice; B, second choice; C, third choice; D, fourth choice; 0, of no value; (--), value is unknown; (?), indicates choice is questionable because cases reported are too few; (+), indicates combined therapy necessary. S.D. = sulfadiazine. S.M. = sulfamerazine. P A S = para-aminosalicylic acid. S.A. = sulfacetimide.

The white blood cell count rose to 22,000 per cu.mm. with a left shift. Numerous other laboratory studies were performed and were either normal or contributed no pertient information.

It is believed by all who saw the patient that the tireless and judicious attention of the house staff, particularly with regard to the proper administration of fluids and electrolytes, was largely responsible for her eventual recovery. Penicillin and streptomycin were administered throughout most of the illness.

* Reported with the permission of the Clinical Director, Veterans' Hospital.

Table 4. — Choice of Antibiotics in Certain Clinical Conditions

	Penicillin	Streptomycin	Aureomycin	Chloramphenicol
1. Pneumonias (Remember that shifts in bacterial flora occur in debilitated patients)				
a. Pneumococcic	A (S.D.)	C	B	C?
b. Strep. beta hemolytic	A (S.D.)	C	B	0
c. Staphylococcic	A+	0	B+	0
d. Friedlander's (K. pneumoniae)	0	A (+S.M or S.D.)	0	B?
e. H. Influenzae	0	B (+S.M. S.D.)	A (+S.M. S.D.)	--
f. Tularemic	0	B	A	A?
g. Atypical Types				
(1) Virus	0	0	A	A
(2) Rickettsiae - Q fever	0	0	A	A
h. Tbc.	0	A (+PAS)	0	0

Legend: A, first choice; B, second choice; C, third choice; D, fourth choice; 0, of no value; (--), value is unknown; (?), indicates choice is questionable because cases reported are too few; (+), indicates combined therapy necessary. S.D. = sulfadiazine. S.M. = sulfamerazine. P A S = para-aminosalicylic acid. S.A. = sulfacetimide. S.T. = sulfathalidine.

COMMENT

The diagnosis of Weil's disease was established by the results of serum agglutination tests performed at the National Institute of Health, Bethesda, Maryland. For many days, the correct diagnosis in this case was unsuspected. In retrospect, however, the case is entirely typical of Weil's disease and could have been recognized on clinical grounds alone. The patient had an illness with sudden onset, chills, high fever, and muscle aching. The outstanding manifestations were those of acute nephritis, ie, oliguria, azotemia, and albuminuria, hematuria and cylinduria. In addition there was evidence of hepatomegaly, jaundice and a bleeding tendency. Diffuse bronchopneumonia is also a recognized feature of this disease. (2)

In Dallas, Weil's disease is probably not rare. Several cases have been recognized in local hospitals in the past few years, and undoubtedly other cases have not been diagnosed correctly. The most important aspect of treatment is the maintenance of normal fluid and electrolyte equilibrium, and in this regard the treatment is identical with that advocated currently for "lower nephron nephrosis". (3) Whether or not penicillin or streptomycin were of value in the survival of the patient is debatable. Recent investigations suggest that aureomycin might be preferable as a spirochetocidal agent. (4).

CASE 3

A 21-year-old white man was admitted to the Veterans' hospital at McKinney, Texas, on June 7, 1949, with the complaints of fever and cough.* The patient was a river fisherman, and in the course of his occupation often drank water from untested sources, and had numerous tick bites.

He became ill on June 2, 1949 with repeated chills, high fever, muscle and joint pains, abdominal pains, headaches, and a hacking unproductive cough.

At the time of admission he appeared acutely ill, lethargic, but rational, with temperature of 105 degrees. The important physical findings elicited were medium moist rales and dullness over the left lower portion of the chest, posteriorly. The initial white blood cell count was 3700 per cu.mm. with normal differential count. Urinalysis revealed normal findings. Blood cultures were subsequently reported as yielding no growth. Sputum cultures were not made.

The initial clinical impression was that of "virus" pneumonia. However, the abrupt onset with high fever and repeated chills (twice daily) are unusual in this disease. In addition, chest x-rays disclosed an area of lobar consolidation in the left lower lobe, rather than the usual type of feathery peribronchial infiltration (Figure 5). These x-rays also demonstrate the not-uncommon finding that lesions in the left lower lobe of the lung may be obscured by the superimposed cardiac shadow, and readily can be overlooked by the unwary. Lateral (or sometimes oblique) views may be necessary to demonstrate lesions in this location.

Typhoid fever was also considered as a likely diagnosis at the time of admission. It is well known that lobar or bronchopneumonia may be one of the prominent early manifestations of this disease. The occupational exposure and the leukopenia were consistent with typhoid fever, but the abrupt onset and absence of rose spots or splenomegaly on the fifth day of illness were at variance with the usual course of typhoid fever.

Finally, murine typhus was suspected and actually the history and findings were entirely compatible with this diagnosis, except for the absence of the charac-

Table 5. — Choice of Antibiotics in Certain Clinical Conditions

	Penicillin	Streptomycin	Aureomycin	Chloramphenicol
2. Sub-acute Bacterial Endocarditis				
a. Alpha hemoly. strep (viridans)	A	C?	B	0
b. Beta hemoly. strep	A (+S.D.)	C?	B	0
c. Streptococcus fecalis	B+	C?	A+	0
d. Staphylococcic	A+	0	B+	0
e. Micrococcus (Staph) Tetragenus 45	A+	B+	--	--
f. Gram-Negative Bacilli	0	A+	A+	A+
3. Urinary Tract infections (Remember surgery often more important)				
a. E. coli	0	B (S.A. or S.D.)	A	A
b. Aerobacter aerogenes (B. lactis aerogenes)	0	B (S.A. or S.D.)	A	A
c. Proteus vulgaris	0	B (S.A. or S.D.)	0	A
d. Pseudomonas aeruginosa (B. pyocyaneus)	0	A	0	A or B
e. Streptococcus fecalis	B	0	A	0
f. Staphylococcus	A	0	B	0

Legend: A, first choice; B, second choice; C, third choice; D, fourth choice; 0, of no value; (--), value is unknown; (?), indicates choice is questionable because cases reported are too few; (+), indicates combined therapy necessary. S.D. = sulfadiazine. S.M. = sulfamerazine. PAS = para-aminosalicylic acid. S.A. = sulfacetimide. S.T. = sulfathalidine.

teristic rash on the fifth day of illness.

Because all three of the diseases considered most probably respond favorably to treatment with chloromycetin, this drug was administered in adequate dosage. As can be seen in Figure 6, there was an apparently prompt response with a return of the temperature to normal in 48 hours. After several days of decreased dosage, chloromycetin was discontinued, following which the temperature rose again to 102 degrees. Upon the re-administration of chloromycetin there was again a prompt response to treatment and convalescense proceeded uneventfully.

None of the original diagnostic suggestions were confirmed by laboratory tests. Instead there was an unequivocal and diagnostic rise in the titer of serum agglutinins against B. tulerense.

COMMENT

Tularemia is a not uncommon disease in the Southwest. Infection may be contracted by the handling of infected wild animals or by tick bites. One-quarter or more of cases of tularemia exhibit pulmonary lesions (5). Local ulcers of the skin or eye and regional lymphadenopathy often are absent. This disease should be considered in the differential diagnosis of "virus" pneumonia, typhoid fever, typhus, etc.

Streptomycin is highly effective in the treatment of tularemia. Chloromycetin is believed to be effective as well, although clinical experience as yet is quite limited. On the basis of comparative laboratory studies aureomycin is thought to be the specific treatment of choice. In the small number of cases on which it has been used, the response to treatment has been satisfactory (6).

CONCLUSIONS

The objective in these case presentations has been to re-emphasize a few facts regarding pneumonia. Good treatment still requires knowledge of the specific causative agents. A large number of bacterial species, viruses, rickettsias, spirochetes, and fungi are capable of producing pneumonia in man. With the remarkable decline in the incidence of pneumococcal pneumonia in recent years, and the waning of "virus" pneumonia as an epidemic disease, a greater emphasis should be put on the proper recognition of other etiologic varieties of pneumonia. Potent chemotherapeutics sometimes complicate, rather than simplify, problems in the management of pneumonia, and are capable of suppressing the growth of one type of bacterial flora, permitting the overgrowth of another.

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Table 6. — Choice of Antibiotics in Certain Clinical Conditions

	Penicillin	Streptomycin	Aureomycin	Chloramphenicol
4. Preoperative & Postoperative in Intestinal Surgery	0	B	A?	A (S.T.)
5. Preoperative & Postoperative in Pulmonary Surgery	A	A	--	--
6. Ulcerative Colitis (Idiopathic)	0	0	0	?
7 Otitis Media	A	C (sulfa)	B	--
8. Poliomyelitis	0	0	0	--
9. Guillain-Barré's Syndrome	0	0	0	--
10. Hepatitis	0	0	0	--
11. Infectious Mononucleosis	0	0	0 Borate 0.5% sol. locally	--
12. Ocular Infections				
a. Staphylococcus, Pneumococcus, H. Influenzae, Morax-Axenfeld	Not desirable		A	--
b. Inclusion conjunctivitis, trachoma, other viruses	locally		A	--
c. Herpetic conjunctivitis			A?	--
d. Epidemic keratoconjunctivitis			A	--

Legend: A, first choice; B, second choice; C, third choice; D, fourth choice; 0, of no value; (--), value is unknown; (?), indicates choice is questionable because cases reported are too few; (+), indicates combined therapy necessary. S.D. = sulfadiazine. S.M. = sulfamerazine. PAS = para-aminosalicylic acid. S.A. = sulfacetimide. S.T. = sulfathalidine.

Undulant Fever

Six patients with active undulant fever (brucellosis), 5 proven by positive blood cultures, have been treated with Chloromycetin. The average duration of fever after the administration of this antibiotic was 2.4 days. The drug was administered over a period of 8.5 days and the mean total dosage per patient was 17.5 Gm.

The dosage recommended in treatment of this disease, on the basis of the above experience as well as in additional cases, is the initial administration of 60 mg. per Kg. of bodyweight and 0.25 Gm. every three hours thereafter for at least seven days of normal temperature. Chloromycetin would be expected to exert some beneficial effect in the chronic disease, but treatment will probably have to be prolonged. Therapeutic effectiveness in the chronic state may be difficult to evaluate.

ANTIBIOTICS AND THE TREATMENT OF VIRUS INFLUENZA

William P. Blocker Jr., Captain, MC, U. S. A.,
and
Leon J. Numainville, Lieutenant Colonel, MC, U. S. A.,
William Beaumont General Hospital, El Paso, Texas

Considerable difference of opinion exists regarding the chemotherapeutic agent or antibiotic of choice in the treatment of virus influenza. With this in mind, a control study was undertaken to evaluate the effectiveness of the commonly used agents in the treatment of virus influenza. The material used in this study was 146 patients admitted for influenza out of an estimated 5000 cases in the surrounding area. All patients in this study had symptoms of influenza and sufficient temperature elevation to warrant hospitalization. The conditions for study were optimal as all patients were admitted at the onset of their disease, without receiving previous medication and were under constant supervision for the duration of this study. For treatment purposes, patients were divided into six groups, each of which received one of the following forms of therapy: aureomycin, penicillin, streptomycin, sulfadiazine, combined antibiotics and symptomatic therapy.

The offending virus in this epidemic was found to be "influenza A, Ft. Monmouth strain" as determined by the Fourth Army Area Medical Laboratory, Fort Sam Houston, Texas, utilizing the Hirst Test, (1) (2) which measures the level of neutralizing antibodies in the serum of patients with virus influenza.

METHOD OF STUDY

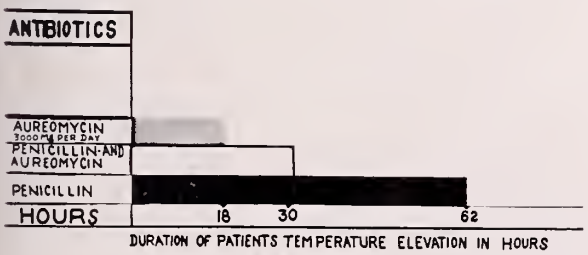
1. All patients were isolated in wards alloted to the infectious and contagious disease section. Medical and nursing personnel in attendance were thoroughly familiar with the care and management of contagious diseases.

2. Chest x-rays were made on all cases either on the day of or the day following admission and repeated as warranted by symptoms suggestive of pulmonary complications.

3. Complete history and physical examination was done at time of admission. Each patient was questioned carefully as to previous inoculation for influenza, especially as regards date and type of vaccine.

4. Routine laboratory procedures consisted of a complete blood count, including a Schilling differential and a urinanalysis. An erythrocyte sedimentation rate was done on 10% of the group; 5% received agglutination tests for infectious mononucleosis and brucellosis; 20% of the study group had the Hirst test for virus influenza; another 3% had blood cultures and liver function studies, including thymol turbidity, icterus index and cephalin cholesterol flocculation test.

5. Of the 146 patients, Group I, comprising 46%, were placed on 200,000 - 300,000 units of aqueous penicillin G, every 3-6 hours, varying with the severity of the initial clinical manifestations. Group II, comprising 22%, were placed on aureomycin, 3000 mg. per 24 hour period as the adult dose. For children syrup of aureomycin, 50 mg. per dram was given, dosage depending on weight of child. Group III, comprising 2%, received Streptomycin 1 - 1½ grams daily, by intramuscular injection. Group IV, comprising 5%, received only symptomatic treatment and no antibiotics. Group V, comprising 2%, received symptomatic therapy in addition to sulfadiazine, following an initial dose of 2 grams, 1 gram was given every four hours. Group VI, comprising 23%, were mainly women and children and treated in a separate wing of the infectious and contagious disease section, received aureomycin 1500 mg. and procaine penicillin in oil 300,000 - 600,000 units per 24 hour period. The dosage of aureomycin for children varied with their weight. Twenty percent of these cases initially received penicillin for less than twenty-four hours, then aureomycin was begun. The effect of the penicillin in these cases we feel was negligible. However, in as much as they did receive some penicillin they are included here. Their inclusion in Group II would have raised this group percentage to 27%.



DURATION OF PATIENTS TEMPERATURE ELEVATION IN HOURS FOLLOWING ANTIBIOTIC THERAPY

CLINICAL PICTURE

The clinical picture presented by this epidemic appears to be typical of those described elsewhere, (3) (4), in which the etiological agent was influenza virus, type "A". In the majority of cases the onset was abrupt, with the following sequence of symptoms: chilliness or chills, fever, vertigo, anorexia, headaches, lassitude, muscular pains and aches, non-productive cough, nausea and vomiting. Less frequent symptoms observed were: sneezing, nasal irritation with coryza, substernal discomfort, hoarseness and in one case, epistaxis. In this epidemic high temperature elevations were common and frequently elevated to 105 degress F. However, the calculated average was 102.2 degrees F.

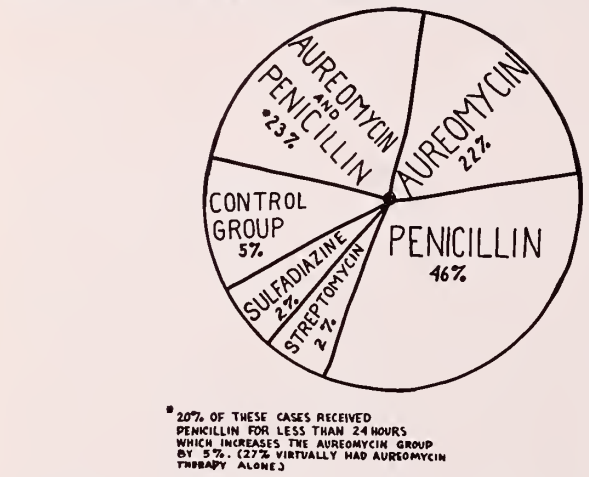
PHYSICAL EXAMINATION

In this epidemic physical findings were few, consisting of moderately injected faucial pillars, soft palate, conjunctiva, nasal mucosa, and posterior pharyngeal walls.

A flushed face and enlarged tender cervical lymph glands were routinely observed. Many of these patients had a dry non-productive cough and some vague chest discomfort. However, on auscultation of the chest, there was no evidence suggestive of pulmonary involvement.

LABORATORY FINDINGS

All patients were submitted to routine laboratory procedures and the majority of these cases exhibited either a normal leukocyte count or a moderate leukopenia. Schilling differentials showed moderate lymphocytosis to be a common finding.



All blood cultures were sterile after 13 days. Agglutination test for infectious mononucleosis and brucellosis were negative. Liver function tests were within normal limits. Routine urinanalyses were done on all admissions, all of which were within normal limits except for a slight albuminuria which was a constant finding for the first day of the disease only.

All patients admitted to the hospital had a minimum of one roentgenogram of their chest made on day of or day following admission. In 30% of the cases, these x-rays were repeated to rule out the development of any pulmonary complication. All chest films were interpreted to be within normal limits except for one case admitted with rheumatic heart disease, who exhibited marked cardiac hypertrophy and pulmonary edema complicated by the influenza.

DISCUSSION

Prior to evaluating which of the antibiotics or chemo-therapeutic agents appearted to be of most value in the treatment of Influenza Type "A", all charts diagnosed as influenza were reviewed in regards to symptoms, physical and laboratory findings, prior to making the final diagnosis of virus influenza, and a tabulation made in regard to maximum temperature, type of therapy, duration of temperature, elevation, age, laboratory and roentgenographic findings and complications incurred. Following review of the maximum temperatures and their duration under each of the aforementioned forms of therapy, the following data was found:

Of those patients receiving large doses of aqueous penicillin G, the average maximum temperature elevation was 102.2 degrees F. The average duration of the temperature elevation under this form of therapy was sixty-two hours. Patients who were placed on standard dosages of aureomycin supplemented with procaine penicillin in oil twice daily had an average maximum temperature of 103 degrees F., and a duration of temperature elevation of 30.8 hours. The third, and most significant, group of patients were those who received large doses of oral aureomycin (3,000 mg. daily). The average maximum temperature for this group was 102.2 degrees F., and the average duration of the temperature of this group was 18 hours. The controlled group who received symptomatic therapy alone, and who unfortunately consisted of those with apparently the least severe cases of influenza, had a maximum temperature average of 101.2 degrees F., and an average duration of temperature of 56 hours. In the 2 smaller groups, which received streptomycin or sulfadiazine, we were unable to see that these drugs were of any value at all. In two of the cases, the disease progressed after 36 hours to such severity that we found it necessary to supplement the patient with aureomycin in order to control the temperature elevation.

CONCLUSION

From the material gathered in this epidemic of influenza A, aureomycin appears to be the antibiotic of choice in the therapy of this disease. Aureomycin given in large doses (3,000 mg. per 24 hour period) lowered the temperature elevation and ameliorated the symptoms of the disease in approximately 30% of the time that was required by penicillin G, and in approximately 50% of the time that was required by aureomycin given in small doses supplemented by 600,000 units of procaine penicillin in oil.

It is unfortunate that a larger group could not be studied on symptomatic therapy alone so that we would be better able to evaluate the usefulness of this drug as well as other antibiotics in preventing complications.

In this group studied there were only three patients with complications. There was one case of otitis media, one of acute mastoiditis and one with a staphylococcus lobar pneumonia. Each of these patients had been receiving penicillin prior to the development of the complication, but at the time the complications developed were on symptomatic therapy only.

Allergic manifestations to massive doses of aureomycin have been reported in the current medical literature. (5) (6) (7) In the groups receiving aureomycin, (Groups II and VI) comprising 45%, approximately 4% complained of nausea, pruritus and rectal excoriation and drug rash. The patients receiving aqueous penicillin G exhibited no allergic manifestations. Of those receiving procaine penicillin in oil, three developed allergic manifestations, manifested by severe itching and giant urticaria.

Further controlled study is needed in the use of aureomycin in virus influenza and other virus diseases before a definite conlusion can be reached as to its value in their treatment. However, from our study of aureomycin therapy in the treatment of type A, virus influenza, it appears to be a most effective drug.

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TRENDS IN HOSPITAL COSTS AND COMPENSATORY MEANS TO MEET THEM

By Bryce L. Twitty, B. A., M. A., F. A. C. H. A., Adm.
and
T. S. Matthews, B. S., C. T. A., Controller, Hillcrest Memorial Hospital
Tulsa, Oklahoma.

A speech delivered by Malcolm T. McEachern, M. D., F. A. C. S., Chicago, director of the American College of Surgeons, at the Surgeons' Regional Meeting in El Paso, 13 February 1950.

Thanks to good doctors, the cost of hospital care today is the lowest in the history of our nation. The percentage of the family income spent for hospital care in major surgery is less today than it was forty years ago, or even twenty-five years ago when I first came into hospital management. Forty years ago, for abdominal surgery the average stay in the hospital was fifty-four days; today for the same operation the average stay is between five and six days. Therefore, this patient is nine times better off from the standpoint of time spent in the hospital than he was 40 years ago. In addition to better professional care, the patient has improved comforts, better nursing and better service in every way, not mentioning the improved chances of going out alive and well. If hospitals should charge $25 per day, the American people would still get their hospital bill for less than they got it 40 years ago.

Forty years ago for delivery of a baby the average stay was fifteen days; today it is four days. This is due to the advance in medical science, for which we are grateful. If the patient pays $25 per day, which would be an equitable charge for maternity care, he still gets his hospital bill for less money than he did twenty years ago, even though the cost per day was less.

TRENDS IN COSTS

The trends in costs are still higher and higher per day for hospital care but less and less for operation per patient. Here again we pay tribute to our great medical profession, to the chemists and scientists for their contribution in making this possible. The trends are this way because of concentrated pharmaceutics that have been brought to bear in addition to the marvelous techniques developed by our surgeons. Let me explain why the concentrated drugs are so expensive (and this is something every person should know). Few people realize that it takes seven thousand pounds of fox glove leaves to make a gram of digitalis; that it takes eight thousand pounds of liver to make one gram of vitamin B-12, known as the red vitamin; that it takes the pancreas glands of seventeen cows to make one ounce of insulin; that it takes fifty-four tons of radium ore to make a gram of radium. These are a few examples of why these articles cost so much. Mr. Harold B. Clemenko had a splendid article in **Look Magazine** of January 17th concerning the plight of hospitals and in which he stated that for $1.30 worth of penicillin it costs $1.55 to administer it. Therefore, not only the cost of the concentrated pharmaceutics themselves but the administering of the drugs is often times two to three times as much as the inventory price. Occasionally a person will say, "I can get an aspirin for a nickel at a drug store", which is perhaps true, but in the drug store a diseased soda jerker hands him an aspirin and if the person buying the aspirin falls dead when he takes it, the soda jerker has no responsibility for what happened, whereas, in the hospital the aspirin is administered by a professional person who knows whether or not the aspirin would kill the patient if he takes it.

ADDED COST

One of the added costs of operating hospitals is that it is impossible to hire and fire employees in proportion to the increase and decrease in patient load. In other words, our load depends on the health barometer of the community. One week the hospital will be running over, with beds in the halls, sun parlors, etc., and the next week the hospital will have one-third of the beds empty. Yet, its personnel being professional people and hard to secure, must be kept on the payroll whether the hospital is full or not. Consequently, this adds to the increased cost of hospital care to the patient.

The American people get more for their money in a hospital than any other place on the American market. Their dollars go further and buy more in a hospital than any other place. For instance, if the patient is paying $12 per day for a private room in a hospital, he is only paying 50¢ per hour, because he gets twenty-four hours of care. For this 50¢ per hour, he is bathed in bed, fed in bed and gets toilet service in bed, and by actual count the average patient is served 37 times in twenty-four hours in a hospital by three 8-hour shifts of professional people and other employees. Ninety per cent of those who serve the patient have spent from three to ten years preparing themselves for this service. In comparison, what can we buy in the commercial world for 50¢ an hour? A housewife cannot get her dishes washed for 50¢ or get the lawn mowed. Other times a person will say, "I can get the same room in a hotel for $5.00", which is probably true, but that is all he gets in a hotel. If in a hotel in your $5.00 room they should wait on you 37 times, you would have paid out, in addition to the $5.00, $9.25 for tips making $14.25 paid out, and then, in the hotel if they should bathe you in bed, feed you in bed, give you toilet service in bed, change the linens from 6 to 10 times, catheterize you in bed, you would have to float a bond issue to get out.

The public should remember the most sacred thing in life is life itself. No man I know of works as hard or disciplines himself as much as a practicing physician. I have served and worked with the medical profession for over twenty-five years, and they are the greatest men on earth. The average doctor charges less per hour for calling on a patient than a master plumber. It costs nine times as much to have your house painted by a union painter, if painted around the clock, than it does to stay in the finest room in the finest hospital in our city. The trouble is, people do not know how to judge values. A man will give $25,000 to hire a criminal lawyer to defend him from the electric chair, where he should probably go, and yet a doctor can charge him $1,000 for saving his life and he will tell everybody in the country about it and refuse to pay the bill.

RECENT STUDY

A study which we made recently of representative items used by the hospital showed that from 1940 to 1949 food had increased over 300% on some items.

To be exact the range was from 87% on the food item with the smallest increase to 306% on the items with the greatest increase. Drugs had increased all the way from 10% to 170%. Practically the same was true of dressings, linens, laundry and hospital supplies. Labor had increased all the way from 105% to 243%, and no consideration was given in this computation to shorter hours worked. Since this study was made, there have been further increases in labor costs.

While in recent months there have been slight decreases in some items, such as food, for instance, our prognostigators of economic trends are practically unanimous in their predictions that in order to produce the taxes to meet what appears to be a permanent national budget of astronomical proportions it is going to be necessary to maintain high prices, high wages and a high level of economic activity. They predict that further money tinkering may be resorted to by the Congress and the Administration in order to accomplish this. We may assume then that the high prices and high wage costs may be with us for several years to come. Necessity is the mother of invention. Such means as have been placed in effect in the past to control and offset these rising costs must be continued and new means developed.

We have spared no effort or money to secure top caliber people to head the different departments of our hospital. That this has paid off in dividends is evidenced by a study which was recently made by us, comparing our costs with the cost of operating hospitals of comparable size and located in the South Central part of the United States. This study showed that while our administrative costs were higher than the average of other hospitals in this area, our over-all costs were lower. Cheap management is no economy.

DEPARTMENTS MEET

Each Monday morning we have a meeting of all these department heads of the Hospital. All problems pertaining to service to patients, safety, expense control, public information, etc., are discussed in detail and policies established. A stenographer takes notes of all discussion and action taken at these meetings. These minutes are read at the succeeding meeting to make sure that the procedures decided upon are duly placed into effect.

We recently placed into effect an air-tight purchase order system and hired a purchasing agent of high ability and with previous experience in this line. This purchase order system provides that all requisitions for purchases must be signed by the head of the originating department and approved by the administrator before passing to the purchasing department for securing quotations, bids, and issuance of purchase order. Requisitions for items issued from stock must be signed by the department head before presentation to the storekeeper. We have not overlooked competitive bids and any institutional discounts to which we are entitled. Neither have we overlooked the fact that food and drugs comprise a large portion of the cost of supplies. Since our hospital is a non-profit community institution, we have made application to share in the surplus food distributed by the U. S. Department of Agriculture. Also, we are considering at the present time the possibility of establishing, in collaboration with other hospitals in the area, a central purchasing agency. If prices continue to advance, we may be forced to take definite action in this respect.

Some time ago we made a study of discounts on billing allowed to various organizations and individuals. A number of these were reduced and some discontinued entirely. We have adopted the use of plastic dishes throughout the hospital and this has reduced replacement of dishes to practically nil.

ACCOUNTING DEPARTMENT

In the accounting department, too, we have adopted short-cuts and machine operations. While these have not reduced expenses, they have had the effect of avoiding additional expenses as the hospital enlarges or have released effort which has been employed to give management additional statistical and accounting information for its use in controlling expenses. As examples; we now use composite rates of depreciation for the various classifications of property and this depreciation computation is made annually instead of monthly and on each item of equipment. Our reports are presented in even dollars only. Some are presented in even $100. This saves time in typing or makes possible more information in the same report. Also, we have presented certain reports in graph form only. This eliminates typing entirely and gives a better picture at a glance of comparisons and trends. In the case of some reports the figures are copied on the duplicating process in pencil and are duplicated without typing.

The County charity load at our Hospital is almost as large as all other hospitals in the County combined. The County pays only a fraction of the cost of servicing these patients. We have taken definite steps to secure at least the cost of these cases. We have been informed that in cases where legal action has been taken against the County, reimbursement for full billing has been secured, however, we have not taken this action to date but rather are attempting to work the matter out in an amicable manner with all concerned.

The Finance Committee of the Board of Trustees require that we operate under a budget. Prior to the beginning of each year we are required to submit to this Committee for its approval our operating cash and construction budgets. This has been a very beneficial step in that it enables us to plan considerably in advance to meet certain situations and get full utilization of our cash resources.

LABOR COSTLY

We have not overlooked the fact that labor usually comprises from 55% to 60% of the total operating cost of hospitals. The system of controlling payrolls which we have partially installed and are in process of completing, provides approval of personnel manager, department head and administrator for new employment. A medical examination is also a prerequisite. This system provides that each regular position is numbered. New authorizations are not required in the case of these regular employees unless change in rate of pay of position occurs. In the case of temporary employees new authorizations must be turned in every 15 days. It often occurs in the case of a temporary employee that he or she becomes a permanent employee merely because there is no follow-up on the part of the management. This system will make it necessary to review these cases at frequent intervals to make sure that a new position has not been created without full knowledge and consent of the management.

Some commercial concerns have been able to offset rising costs by mechanization, however, hospitals cannot employ this means to an appreciable extent because most patients require the personal services of highly trained professional people. Our new building and modernization plans do provide a number of mechanical improvements which will save a lot of time and steps, such as, intercommunication system between patients rooms and the nurses' stations, pneumatic tubes for dispatching charts, charge tickets, etc., to and from the floors.

The plans for construction now in progress provide for a pay cafeteria and we believe that this will reduce considerably the cost of food. We also plan a central admitting system and this provides for the heading of every form produced in the hospital at one typing at the time the patient is admitted.

Castration and Breast Cancer

Castration as an adjunct to the treatment of breast cancer was suggested independently by Schinzinger in 1889 and by Sir George Beatson in 1886. The results of such treatments have been reexamined recently. According to Adair,[11] transient beneficial response may be expected in 15 to 30 per cent of castrated patients who have advanced recurrent or metastatic disease, and little or no response is to be expected in the primary tumor or in lymph gland metastases. The patients who improve are almost entirely in the premenopausal group. X-ray castration may produce good results. In some in whom it fails the failure is suspected to be due to incomplete castration effects of the x-ray. A good result is manifested by relief of pain, increase in appetite and weight, regression of bone metastases, and occasionally pulmonary metastases. Unfortunately, beneficial response is transient.

"The Use of Sex Hormones in Cancer" — E. Perry McCullagh, M. D., Cleveland Clinic Quarterly, January, 1950.

Congenital Polycystic Disease of the Kidney

". . . the typical patient with congenital polycystic disease of the kidneys will have a family history of renal disease and may expect symptoms to appear during the fourth or fifth decade of life. . . . A history of recurrent infections of the urinary tract and possibly renal colic may be elicited. On examination one or both kidneys may be palpated as irregular, hard masses. The blood pressure will probably be found to be moderately elevated with minimal to moderate hypertensive changes in the ocular fundi. Laboratory examinations may reveal albuminuria and pyuria of varying degrees. The intravenous pyelogram will show elongated calices with some blunting and irregularity of outline. Such a patient ordinarily will have a life expectancy of approximately 10 years after the onset of symptoms and has a fair chance for a normal life span. A poor prognosis is indicated by increase in the size of the kidneys, increase in severity of symptoms, progression in associated hypertensive vascular disease or advancing impairment of renal function."— Rall, J.E., and Odel, H.M., *Am.J.M.Sc.* 218:399, 1949.

Southwestern MEDICINE

Journal of
SOUTHWESTERN MEDICAL ASSOCIATION
and EL PASO COUNTY MEDICAL SOCIETY

Vol. XXXI JULY, 1950 Number 7

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Attened Conventions

We have leaned over backwards in a liberal policy of sending our department heads to national, regional and state conventions. I don't believe that there has been a single case where the department head did not bring back information for the hospital of far more value than the cost of the trip. I wager that by the time this convention is over each one in attendance will carry back to your hospital information that will more than pay for your time and expenses.

As a general rule, hospital employees live like sharecroppers. They do not enjoy pensions and other benefits enjoyed by persons in industrial employment. This is true because the charity load of the hospital must come out of the sick man who does pay his bill and out of sub-standard wages and benefits of hospital employees. We must be on the alert to increase these benefits to employees just as fast as conditions will permit.

A large portion of the financial troubles of voluntary hospitals is due to the fact that the sick and those who care for the sick do not have grandeur. Men and women of wealth have put their money into such things as football stadiums, race tracks, fountains and statues. Many wealthy oil men think nothing of giving $30,000 for a white-faced bull, but ask them for $100 for a red-headed child and they have such a hard luck story that before they are through with you, you are about to pass the hat for them. Our hospitals in the South are not endowed; they are in debt. The only way we can get money to operate is to twist it out of the backs of sick people, therefore, we have a moral duty to make sure that we as hospital employees make full utilization of our talents and resources and thereby give to the people we serve the maximum service at the least possible cost.

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REORGANIZATION PLAN NO. 27

(Continued from Page 216)

Hoover Report has issued a statement in opposition to Plan No. 27.

Again, American medicine must register its disapproval of the welfare state trend exhibited in this bill. Again, we must seek the approval of the Hoover Commission recommendation for an independent agency to co-ordinate and administer all federal health services.

You are urged to write, and have your lay friends write, to your Senators and Congressmen expressing opposition to Reorganization Plan No. 27. Action is imperative. The plan goes into effect July 31, 1950, unless vetoed before that time. You may rest assured that the sales department of your government is working diligently for the acceptance of this plan. Let's again prove that we don't like the price.

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August, 1950

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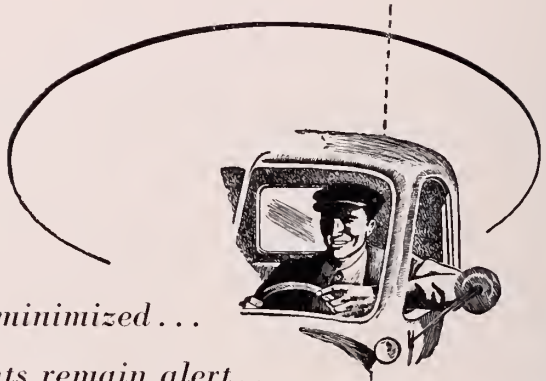
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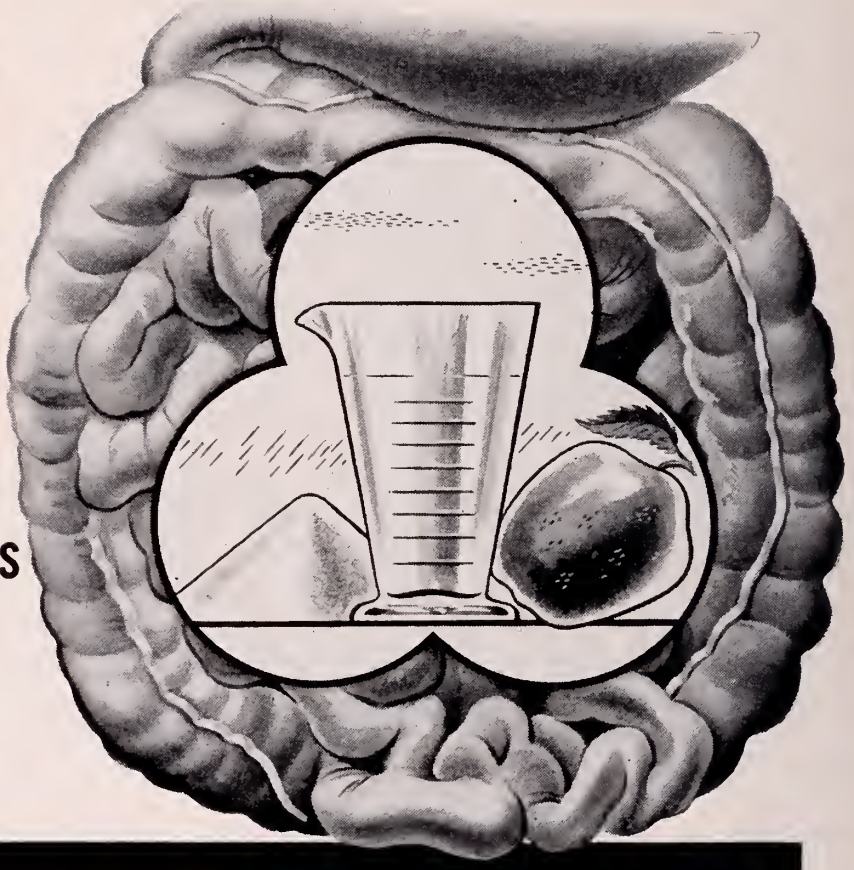
1. Perloff, W. H.: Am. J. Obst. & Gynec. *58*:684, 1949.

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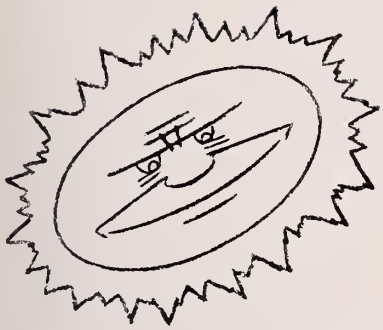
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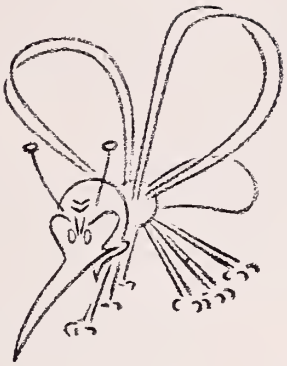
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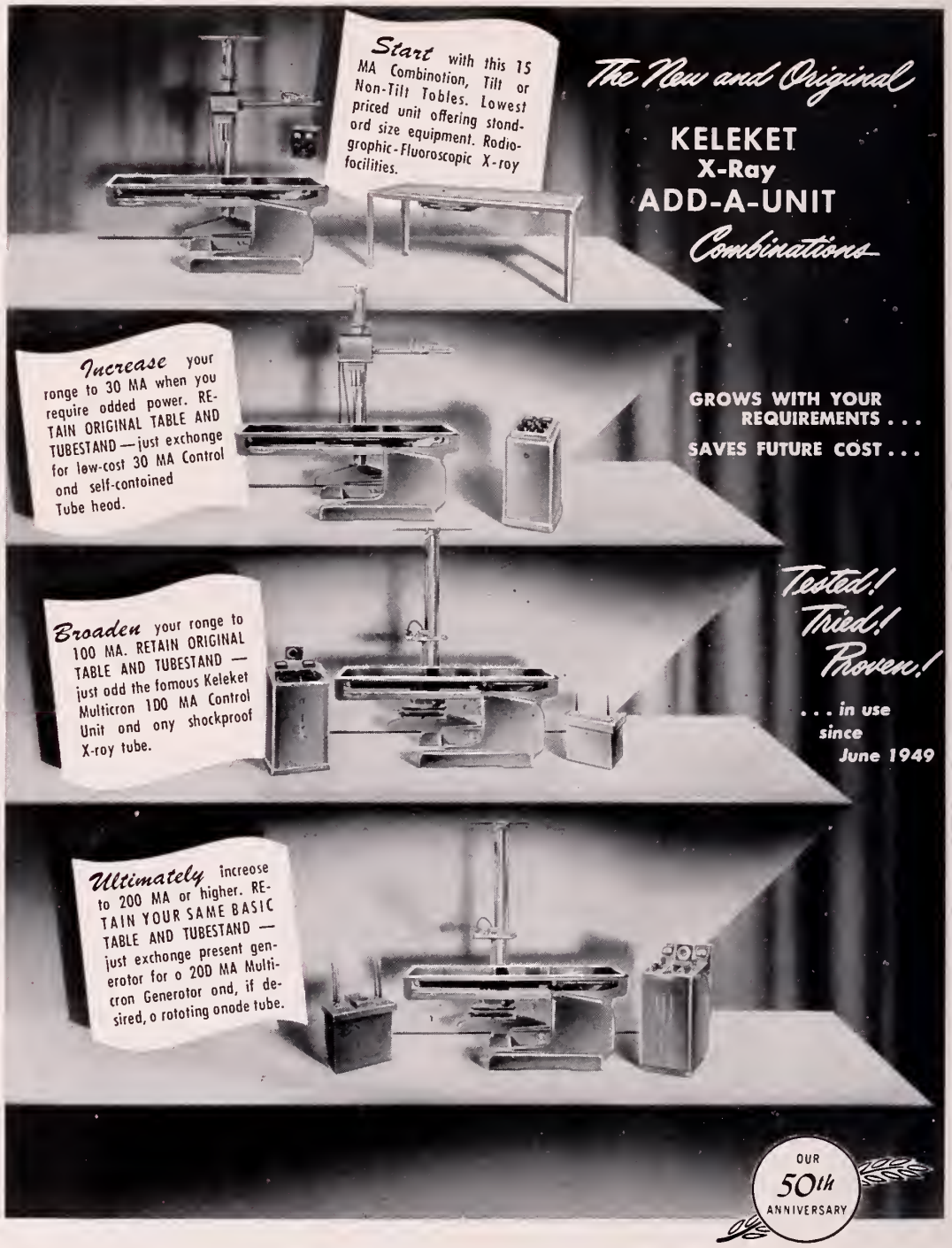
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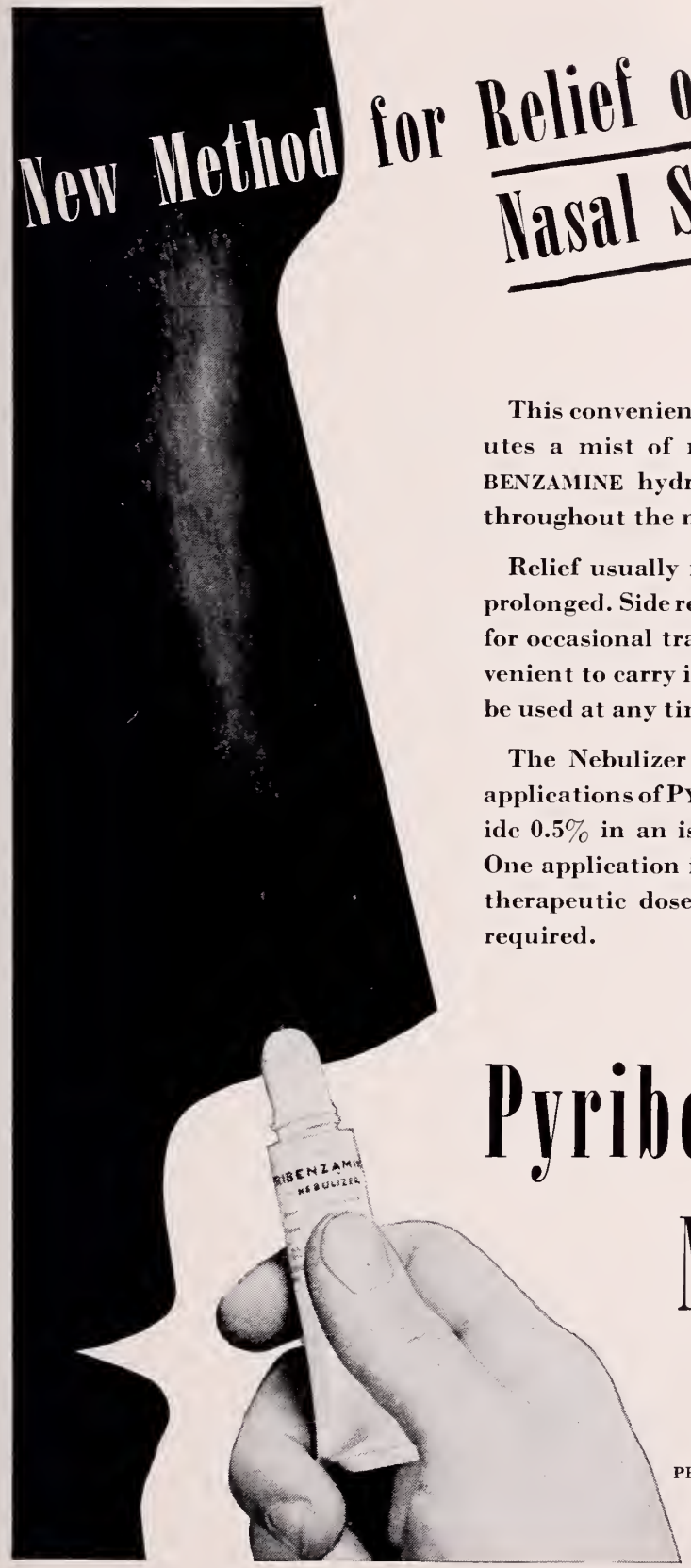
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"A SENSELESS ACT FOR WHICH NO ADEQUATE EXPLANATION IS POSSIBLE"

On December 4, 1949, the records of the Hillsborough County General Hospital, Goffstown, New Hampshire, show that Dr. Hermann N. Sander injected air into a vein of one Abbie Borroto, his patient. Now the press announces that Dr. Sander has been reinstated by the New Hampshire Board of Registration of Medicine so that he may again practice his profession. This particular case has been widely publicized. It has brought unfortunate assumptions as regards the profession in general. It has given rise to destructive criticism. Naturally the lay press has highly publicized the proceedings in general.

It is news, and we must accept the fact that the press is entirely within its right to give this whatever publicity they may feel it deserves. This act of Dr. Sander has been instrumental in gaining membership for the Euthanasia Society of the United States. The Euthanasia Society is made up of both physicians and lay members. Its membership has never been large, and even with this episode, in all probability, its membership is still under 600. When one considers that this society has only about one hundred members of the profession listed, it would seem that Euthanasia lacks popularity with the profession as a whole.

REPORT QUOTED

In order that the Readers of SOUTHWESTERN MEDICINE be fully acquainted with the action insofar as the profession itself is concerned, the report of the New Hampshire Board of Registration in Medicine, April 19, 1950, is herewith quoted:

> "The records of the Hillsborough County General Hospital, Goffstown, New Hampshire, indicate that on December 4, 1949, Dr. Hermann N. Sander injected air into a vein of one Abbie Borroto, his patient. At a hearing conducted by this Board on April 12, 1950, Dr. Sander admitted that he attempted to inject air into a vein of the aforementioned patient and that he did in fact inject air into that patient's body, although he now does not positively state whether or not he did in fact penetrate a vein. Dr. Sander stated to this Board that he thought the patient was dead when he injected the air. He was unable to offer any reason for injecting air into this patient. At the hearing his counsel stated that the injection of air by Dr. Sander was: **"a senseless act for which no adequate explanation is possible."** Dr. Sander further asserted that just prior to the air injections his mind **"snapped"** thereby precluding any explanation for his action.

SANDER'S CONTENTION

Dr. Sander contends that he has done no wrong by injecting air since he is certain that he did not kill his patient. This Board does not concern itself with the question of whether Dr. Sander's patient was alive or dead, but we cannot agree that he has done no wrong. It is common medical knowledge that the injection of air into the vein of a human body can serve no useful purpose and customarily every precaution is taken to avoid the introduction of air into a human vein. It is likewise clear that a physician's moral obligation to his patients and to his profession is to engage only in medical practices which are designed to cure or to alleviate disease. Any act of a physician which is not so designed fails to meet the moral standards of the medical profession. We can only conclude that when Dr. Sander deliberately injected air into his patient, he was either unable to recognize his moral obligation as a physician, or that he was willing to disregard that obligation. Under either view, his action is morally reprehensible according to medical standards. Obviously, no physician, whatever his professional standing, can be allowed to perform **"a senseless act for which no adequate explanation is possible."** In the unanimous opinion of this Board the action of Dr. Hermann N. Sander, here under consideration, indicates that he failed to meet the requirements of morality imposed upon him by his profession and by law. This Board finds that his "moral character" as we understand that term to be used in Revised Laws, chapter 250, section 14, is such as to require the revocation of his license under that law. Accordingly, his license to practice medicine in the State of New Hampshire is hereby revoked as of this date, April 19, 1950.

> No application of Dr. Sander for reinstatement by this Board will be entertained prior to June 19, 1950."

PROFESSIONAL OBLIGATION

It seems apparent that Dr. Sander was unable to comprehend the obligation which a physician owes, not only to his patients, but to the other members of the profession. It is all very well to explain that at the time this act was committed, the mind "snapped". It is a convenient explanation, but this cannot help to explain the situation clearly enough to allay doubts in the minds of the public or many members of the medical profession. It well may be that members of the Euthanasia Society, such as W. Somerset Maugham, Robert E. Sherwood, Eugene O'Neill; professional liberals, such as Arthur Garfield Hays, and Max Eastman; the birth controller, Margaret Sanger; and Reverend Harry Emerson Fosdick can well understand Dr. Sander's act which seemed nonsensical.

RANK AND FILE

However, the rank and file of the medical profession who are concerned with the suffering and the heartaches of individuals afflicted with illness and pain will find it extremely difficult to condone his action. It may be that some of us have not perhaps the intellect to understand this philosophy, but most of us are well satisfied to follow the ethics of the profession as they have been taught us for many years by our predecessors. It is sincerely hoped that now, since Dr. Sander is again in the act of practicing medicine, that he will not forget that he owes the medical profession in general a debt and that only his maintenance of the high standards of conduct expected of every physician can adequately pay this debt.

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Illinois, Oregon, and several other states require Red Cross first aid training for school bus drivers. In Illinois alone, more than 50 Red Cross chapters conducted such training in the 1948-49 school year.

De Rebus Medicis Et Politicis

BY ROBERT B. HOMAN, JR., M. D., EL PASO, TEXAS
MEMBER OF THE HOUSE OF DELEGATES OF THE AMERICAN MEDICAL ASSOCIATION

THE HOUSE OF DELEGATES AT SAN FRANCISCO

The complete transactions of the House of Delegates of the American Medical Association will be printed in the Journal of the American Medical Association. It is, of course, impossible and unnecessary to attempt to present all of the transactions in brief in this short space. Over eighty separate resolutions and reports of councils and committees were deliberated by the House. Some of the actions of vital interest to all doctors will be reported and discussed here.

A very strong report in opposition to the practice of Medicine by hospitals was adopted. There was prolonged discussion of this matter both before the reference committee and from the floor of the House. The exploitation of doctors by hospitals is to be deplored. Anesthetists, pathologists and roentgenologists are particularly exploited in certain Eastern areas. The practice is spreading into the medical and surgical fields. Fortunately in our southwest the physician-hospital relationship, generally, remains ethical and mutually agreeable. It will remain so if the recommendations as adopted are followed. Hospital administrators and trustees and all physicians will find these recommendations important reading.

STRONG RESOLUTION

The House adopted a strong resolution in opposition to Reorganization Plan No. 27, and instructed the Officers and Trustees to enter into active opposition to the plan in Washington and elsewhere. On July 10, 1950, the House of Representatives vetoed Plan No. 27 by vote of 249 to 71. This is another victory for American Medicine over the socialist planners.

The highly successful National Education Campaign of the A. M. A. received the endorsement of your House of Delegates. In October 1950, just prior to congressional elections, a nation-wide advertising program will be inaugurated — using newspapers, radio and national magazines. Every bona-fide daily or weekly newspaper in the United States, Hawaii and Alaska (approximately 11,000 in number) will carry the A. M. A. ads. Thirty national magazines and some twenty advertising trade publications will also be used. An intensive "spot announcement" campaign will utilize time on over 300 radio stations covering every state.

IMPORTANT PROVISION

The purpose of the campaign is two-fold: First, to aid in every way possible in increasing the availability of good medical care to the American people through the medium of Voluntary Health Insurance. Second, American Medicine is determined to alert the American people to the danger of socialized medicine and to the threatening trend toward State Socialism in this country.

Beginning January 1, 1951, each dues paying member of the A. M. A. will receive the Journal of the American Medical Association. This important provision was initiated by the House of Delegates of the State Medical Association of Texas and was carried through to adoption by the Texas Delegates. Membership dues were again set at $25.00 for 1951 — subscription to J. A. M. A. to be included. Non-members subscription to the Journal was increased from $12.00 to $15.00. Fellowship dues, formerly $12.00, will be cut to not more than $5.00 and will be set at $2.00 at the interim session at Cleveland in December 1950. Thus, combined Membership and Fellowship dues, previously $37.00 will be $27.00 in 1951. Doctors who have not paid their $25.00 Membership dues for 1950 become delinquent in January 1951 and must remove this indebtedness or drop from the membership rolls February 1, 1951.

CONVENTION HIGHLIGHT

The highlight of the convention was the address of the incoming President, Dr. Elmer L. Henderson. For the first time in history, the inauguration ceremonies were broadcast to the doctors and the people of America. The strong, fighting address of Dr. Henderson left no one confused as to the position of American Medicine in the fight for Freedom in this country. That the socialization of Medicine is but the first step toward the complete socialization of all America is now becoming well known to Americans.

The necessity for all American doctors who believe in medical, economic and spiritual freedom to cooperate with the American Medical Association is obvious. The A. M. A. is over one hundred years old. It is fighting your fight as the respected leader of American Medicine. Your membership is of vital importance. No other medical association has the strength, authority, or leadership to halt the economic planners in their drive toward Socialism.

NEW MEXICO CANCER CONFERENCE

The annual New Mexico Cancer Conference will be held in Santa Fe, Oct. 27 and 28, at the La Fonda Hotel.

This meeting for the medical profession of the Southwestern states will have six eminent speakers from various parts of the United States.

The sponsors of the meeting are the American Cancer Society, the New Mexico Medical Society, and the Santa Fe County Medical Society.

Cancer Tests for Medical Students

During the past year 8,994 medical students in 32 schools were given a comprehensive "cancer test," consisting of 180 questions on precancerous lesions, diagnosis, metastases, treatment and prognosis. Object was to find weak spots in cancer teaching. Plenty were found. Although no significant regional differences were observed in the average scores, many schools obviously are bearing down on cancer much harder than are others. Wide variations existed between the average grades of senior students in different schools. Highest score was 150 out of a possible 180, or 83%; the winnah, a senior at University of Minnesota, is the son of a country M.D. Highest score by any medical school professor was 166; but this prof helped write the test. Huh!

THE LEA COUNTY COMMUNITY HOSPITAL



Lea County Community Hospital

In 1946, when the citizens of Lea County, New Mexico, found that their seventeen year experience of varying economic fortune had settled into a steady rise toward permanency and stability, they laid out a program of community enterprise designed to make it possible for the County to take care of its own needs in every way. Housing, schools, roads, new business construction, entertainment facilities were added or begun as soon as possible after the war's end. The entire complexion of the County, as well as its economic thinking, underwent a change.

High on the list of sorely needed facilities was a hospital, Lea County having had only a few small, privately owned, institutions theretofore. The County Commission determined to build not only for the present need, but for the future. Plans were made and discussed and presented to the people of the County repeatedly. All the citizens interested in the project were heard. The Lea County Medical Society was consulted. Outside medical and hospital experts were called in and gave their aid. The question was submitted to the voters, who overwhemingly approved a $750,000 bond issue for the purpose of constructing and equipping a County community hospital.

U. S. PARTICIPATES

Under the provisions of the Hill-Burton Act (Public Law 725), the Federal Government participated in the building cost to the extent of $200,000. Transfer of unused County funds was made by the Commissioners to the Hospital Fund, and the site of the hospital was donated by a group of citizens, bringing the total amount available to the Building Committee to $1,035,000.00.

Upon this basis, architects were called into consultation and actual plans and designs studied. W. L. Pereira, A.I.A., and Associates, of Los Angeles, were selected as the designers; Truman Mathews, A.I.A., of Santa Fe, the architect; and Davis and Foster, El Paso, as consulting engineers. Bids for the construction were taken, and the B. M. F. P. Construction Company, of Lubbock, was awarded the contract. Actual construction was begun in January, 1949.

DESIGN CHOSEN

The design settled upon, basically, is one embodying wide separation of patient rooms in wings, radiating from a core of service and diagnostic facilities. One of the wings has two stories, and there is a full basement which is used for cooking, storage, power plants and personnel cafeteria. Additional wings can be built, and the number of available beds increased, at any time without disturbing the function of the hospital or having to add service and diagnostic facilities.

The three principal patient wings house, respectively, surgical, obstetrical, and medical cases. A truncated, separate wing on the second floor will contain isolation rooms for infectious and contagious diseases. It will be possible to care for cases of poliomyelitis in the hospital, instead of sending patients with this disease away from home for treatment and care as has been done up to the present. Large nurseries will house the newborn infants, who may be seen both from within the nursery corridor as is usual in hospitals and from a gallery outside the building, thus making it possible for younger visitors (who may not be admitted to the maternity department) to see their newly born brothers and sisters in safety.

OPERATING ROOMS

Six operating rooms each designed for a specific purpose, will provide ample surgical facilities for the County. Two delivery rooms, and two labor rooms, which are located beside a private court in which mothers may sun themselves, are separated from the remainder of the hospital, in accordance with the principles of good hospital design, as is the maternity wing.

It is of interest that, although only the finest and most modern equipment has been bought for the Lea County Community Hospital, the total cost per bed for the hospital is only $12,937.50, fully equipped. This figure, when compared to the national $16,000 average for hospitals similarly equipped, indicates that Lea County is getting good value for its money, and that the long and careful preliminary studies paid off.

There are four separate heating and air conditioning systems; one for the hospital proper, one for the operating rooms, a third for the delivery rooms and nurseries, and the fourth for the kitchens and cafeteria. This will prevent reflux of used air, and will eliminate the distribution of cooking or other odors about the building.

COUNTY PRIDE

Lea County looks to its new Community Hospital with pride and enthusiasm. While it can never be a pleasure to be ill, it will at least be more comfortable than is usual to be a patient in the new institution. Lavish use of color (there are six basic color schemes for the patient's rooms alone), elimination of clinic-

railway station waiting room elements, and consideration of the patient's needs all point to a new kind of hospitalization for Lea County citizens. These people have planned, built, equipped, and paid for their hospital.

The hospital contains the following facilities: 80 adult beds; 26 bassinets; 4 infant incubators; 10 cribs for children aged 2 to 10 years; 8 isolation beds; 200 MA diagnostic x-ray; mobile x-ray; full clinical laboratory; public health clinic offices and rooms; electrocardiography and basal metabolism department; pharmacy; central sterilizing and supply department. Adult beds are divided into 22 private rooms each with a connecting toilet; 25 two-bed rooms; 2 four-bed rooms. The children's cribs are in a large ward, separated by glass partitions; the ward has a walled, private play yard for the children.

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Lay Education Materials

Patients should find in every physician's waiting room copies of the vest pocket size pamphlets published by the National Cancer Institute and American Cancer Society. Titles include *Cancer, What to Know, What to Do About It; Cancer of the Breast; Cancer of the Female Reproductive Organs; Cancer of the Digestive Tract; Cancer of the Mouth and Respiratory Tract; Cancer of the Genito-Urinary Tract;* and *Cancer of the Skin.* Sample copies may be obtained by writing to Cancer Reports Section, National Cancer Institute, Bethesda 14, Md. In bulk orders the cost is from $1.50 to $5.50 per 100, and are worth every penny.

Southwestern MEDICINE

Journal of
SOUTHWESTERN MEDICAL ASSOCIATION
and EL PASO COUNTY MEDICAL SOCIETY

Vol. XXXI AUGUST, 1950 Number 8

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CHEMOTHERAPY OF NEOPLASTIC AND ALLIED DISEASES

By W. F. Bethard, M. D.* and L. O. Jacobson, M. D.**
University of Chicago***

EDITORIAL COMMENT: *This paper was presented early in 1949. The authors, since this time, have done considerable amount of investigation with "ACTH" and related compounds. There was some question in their minds as to the advisability of publication of this discussion without mention of this particular phase of their investigations. The Editorial Board of* SOUTHWESTERN MEDICINE, *however, is of the opinion that its readers should have the benefit of the authors' study of this particular problem, and fully realizes that these new developments in this field are of major importance. At the present time these developments are, literally, in their infancy, and it is felt that this paper is complete unto itself. In this connection, very recently, the Editor had an opportunity of attending a clinic conducted by a nationally known hematologist. In discussing a case of particularly resistant blood dyscrasia, he said "everything known has been tried, so what are we to do." Then, rather facetiously, he said, "ACTH."*

INTRODUCTION

Successful chemical therapeusis of malignant disease has been the ambition of medicine for nearly as long as such diseases have been recognized. Medical alchemy, in the form of exotic potions presaged modern treatment. Discovery of artificial radioactivity by Joliot and Curie in 1934 re-energized the flagging search. Inhibition or destruction of malignant cells by means of parenterally or orally administered radioactive elements was an intriguing idea. Clinical evidence that neoplasia with metastasis could be selectively inhibited by chemical means was shown by Huggins in 1941. Since that time, tremendous impetus in this field has been provided by developments in atomic energy and radio-chemistry which accompanied World War II. The following are a few of the agents, both radioactive and chemical, which have been proposed and evaluated in the treatment of neoplastic diseases.

RADIOPHOSPHOROUS (P^{32})

Radioactive phosphorous was first introduced into the treatment of leukemia by Lawrence, Scott, and Tuttle[1] in 1939. Known radiosensitivity of these tumors suggested that "chemo-radiation" would be of value. Theoretically, tissues utilize phosphorous proportionately to their rates of growth. Thus the more rapidly growing malignant cells "take up" more than normal cells, hence should receive the majority of radiation when such phosphorous is radioactive. This is based on the apparently valid assumption that radioactive isotopes of phosphorous possess chemical properties identical to those of the stable element. Tissue analyses by tracer techniques have shown that, although phosphorous is essential to the metabolism of every type of cell, it is preferentially concentrated in the reticulo-endothelial system.[2] Up-take ratios of tumor tissues are variable and correspond roughly to the efficacy of P^{32} therapy in the type of tumor considered.

CARRIER-FREE ISOTOPE

The carrier-free isotope has been made available by exposure of stable sulfur to the emanations of a uranium pile. It is usually shipped as sodium acid phosphate (NaH_2PO_4) in a hypotonic solution which has a pH of approximately 2.0. Both the pH and tonicity are best adjusted prior to intravenous administration, although such is unnecessary for the oral route. Chemical neutrality, as indicated by phenol red, may be obtained by addition, dropwise, of one-tenth normal sodium hydroxide (NaOH); and tonicity may be altered toward physiological by addition of normal saline. Occasionally, distilled water will contain sufficient calcium and magnesium, as impurities, to cause precipitation of the phosphorous. According to the National Bureau of Standards, this may be obviated by the use of 0.001 molar phosphoric acid (H_3PO_4) as the dilutent. The high specific activites now available make dilution desirable. A relative concentration of 1-2 millicuries per milliliter has proved to be optimum for most therapeutic occasions.

SUBCUTANEOUS ADMINISTRATION

Subcutaneous or intramuscular administration in general is contra-indicated because of the large amount of radiation received locally during the absorptive process. Either oral or intravenous routes may be used. In the former case, sterilization is unnecessary; but, on the other hand, relatively greater dosages are required because of uncertain absorption. Absorption may be aided by giving the solution when the stomach is empty, and by withholding food for at least two hours. For the following day iron and calcium containing substances should be avoided. Within six days after oral administration to normal human subjects, 25 to 50 per cent is excreted in the urine and feces. In patients who have leukemia or polycythemia vera, excretion is somewhat less (circa 20-25 per cent of the total dose). It is common practice to consider the effective dose as being 75 per cent of the total oral one. Intravenously, absorption is, of course, 100 per cent; but excretion in six days may range from 5 per cent to 25 per cent in patients suffering from the previously indicated diseases. Nearly all such excretion is by the kidneys.

RADIOPHOSPHOROUS

Radiophosphorous is a monochromatic beta particle emitter, with a half-life of 14.3 days. The particles have a maximum energy of 1.69 M.E.V.; and they are calculated to have an approximate range of 7 mm. in human tissue. The effective dosage is highly individualized. No scheme, based on a specified amount per unit of body weight, is feasible. In general, frequent small doses seem most efficacious in the treatment of lymphoma and chronic leukemia. This is the so-called "fractional method" of Low-Beer, Lawrence, and Stone[3]. One to 2.5 millicuries per week are given, usually intravenously; and, either the amount is decreased, or the interval lengthened as the blood returns to normal. In contrast, polycythemia vera is treated with a large initial dose of 6-8 m.c. intravenously (8-10 m.c. orally). Experience has shown that remissions are longer and more consistent by this method. If one does not occur within three months, the original dose or fraction thereof may be repeated.

* Damon Runyon Sr. Clinical Research Fellow of The American Cancer Society, Inc.

** From the Department of Medicine, University of Chicago Clinics.

*** Presented by Dr. L. O. Jacobson at the International Post-Graduate Medical Assembly of Southwestern Texas and read between the dates of January 25-27, 1949.

Individual variation is marked; hence, some trial and error is unavoidable.

ALLOW FOR DECAY

In other than freshly standardized solutions, calculations of dosage must allow for decay of the radioactivity. Since radioactive decay is characteristically logarithmic, this is best done by plotting a decay curve on semi-logarithmic paper so that the mid-point corresponds to 50 per cent decay in 14.3 days. For some purposes even the hour of the day must be considered, but this is unnecessary in therapeutic use.

Radiation dosage afforded by P^{32} can be calculated in equivalent roentgens according to the formula of Marinelli[4]. Roughly, however, 0.1 millicurie per kilogram body weight, if all retained, delivers about 3 equivalent roentgens of total body radiation in the first day. The same dose would yield between 30 and 60 equivalent roentgens total radiation if less than 50 per cent were excreted. Because of the affinity for reticulo-endothelial tissues, the majority of radiation is expended there.

P^{32} FIRST USED

P^{32} was first used in the treatment of polycythemia vera by J. H. Lawrence in 1940. Since then, polycythemia has become the prime indication for its use. Numerous investigators[5-7] have measured and tabulated accurately the percentage of remissions obtained, and the duration of each. Generally, improvement in the red blood count can be expected in two weeks to three months after the initial dose; and adequate control may persist from six to forty-four months. Because of lag in response it is thought wise to reduce the hematocrit to near-normal levels (i.e. below 55 per cent) by repeated phlebotomies prior to P^{32} therapy. Thromboses are thus avoided, and the symptoms are alleviated. Commonly, about 10 per cent of all cases of polycythemia vera terminate in chronic myelogenous leukemia. An increased incidence has been said to follow P^{32} therapy; but such has not been entirely confirmed by experience. The periods of observation have not been sufficiently long to allow statistical accuracy. Until a definite answer is at hand, the advantages of P^{32} therapy in this disease hardly warrant extreme conservatism.

REINHARD REPORTS

The response of chronic myelogenous leukemia to P^{32} administration is somewhat less than the response after X-radiation. Reinhard et al[5] reported the results in 39 patients to whom they gave frequent small doses. Nearly all had symptomatic, as well as hematologic, improvement; but splenomegaly disappeared in only ten. It was felt that life was not greatly prolonged. Lawrence, Lowry, et al[8] have recently reviewed the results in 129 patients, and concluded that although the length of life was not significantly prolonged, morbidity was reduced. In general, P^{32} has no advantage over X-ray in the treatment of this disorder.

Dosage requirement in chronic lymphatic leukemia and lymphosarcoma is thought to be somewhat lower than in the previously mentioned diseases. Both usually respond satisfactorily to P^{32} in that diminution in size of affected nodes follows selective uptake by them. The spleen, too, may recede. Treatment is most effective in repeated small doses, according to the plan mentioned; but particular care is necessary in order to avoid severe leukopenia. X-radiation probably remains the treatment of choice; but P^{32} may be substituted with some success.

EQUIVOCAL RESULTS

Hodgkin's disease, multiple myeloma, malignant melanoma, Ewing's sarcoma, and mycosis fungoides have all been subjected to P^{32} therapy with notable lack of benefit. All forms of acute leukemia are essentially unaffected. Reticulum cell sarcoma and giant follicular lymphoma yield equivocal and inconsistent results.

There is no method by which an exactly appropriate dose of P^{32} can be predetermined. For this reason signs of toxicity are frequently seen. Once given, the element cannot be removed, nor can excretion be hastened. Leukopenia, thrombocytopenia, and anemia may occur in that order. Anemia is rarest of the three. Bone marrow aplasia may follow large doses; but, provided the patient can be successfully supported, it is seldom irreversible. Attention is directed to the fact that toxic signs may appear as long as four months after treatment, rather than several days as with X-radiation. The major advantages of P^{32} are lack of dose limitation by skin tolerance, absence of radiation sickness, and concentration of irradiation in diseased cells.

RADIOARSENIC (As^{76})

For nearly one hundred years arsenic has been employed empirically in the treatment of leukemia. Enthusiasm lagged until re-investigation of its potentialities by Forkner and Scott[9] in 1931. In 1947 the idea occurred to one of the authors (LOJ) that radioactive arsenic, by combining the effect of radiation and the chemical effect of arsenic, might be more potent than either alone. As a result, 26 patients were subsequently treated; and the detailed responses have been tabulated[10].

Arsenic[76] was produced by the Szilard-Chalmers reaction, which, in brief, involved irradiation of an organic stable arsenic compound (cacodylic acid) in a uranium pile, with final recovery of the desired isotope. As^{76} has a half-life of 26.8 hours, and its emanations include positrons, beta particles, and gamma rays. The latter two are quite energetic, hence, the element must be handled carefully with special equipment. General use is made more impractical by the short half-life which necessitates adjacent sites of production and administration.

METABOLIC STUDIES

Metabolic studies[11] on various organisms, including man, have shown inconsistent species differences in excretion and tissue localization of arsenic. For therapeutic purposes it may be considered that there is no selective uptake, and that any effects are due to total body radiation. It has been estimated that one millicurie of arsenic[76] will yield approximately one equivalent roentgen total body radiation. Initially, patients were given intravenously 0.5 to 2.0 millicuries, an amount that was soon found to be inadequate. As products of greater specific activity became available, doses were increased to 65, and even to 100 millicuries. Because the stable arsenic content was only 3-10 mg per dose, chemical toxicity did not occur. Prior to administration, a saline infusion was started; the arsenic trioxide solution was then drained into the open infusion bottle by means of a heavily shielded remote control mechanism.

TWENTY-FOUR TREATED

Twenty-four of the patients treated had tumors of the hematopoietic tissues; two had polycythemia vera; and one had carcinoma of the stomach with metastases. Each diagnosis was confirmed microscopically before treatment; and repeat tissue studies were done as indicated during the patients' course. Supportive measures included blood transfusions, antibiotics, digitalis, etc, as deemed necessary in each individual case. Of four patients with Hodgkin's disease, the longest remission was two months. A similar response was seen in one of two cases of acute leuke-

mia; but this has occasionally occurred spontaneously. The total white count was reduced, yet abnormal forms persisted in the circulating blood. Terminally, leukocytosis reappeared. Prolongation of life remained equivocal. In subacute myelogenous leukemia (3 cases), chronic myelogenous leukemia (6 cases), subacute lymphatic leukemia (4 cases), and chronic lymphatic leukemia (4 cases) results were inconstant. Some patients responded well, but others did not. One case of polycythemia vera improved. However, relapse was seen in three months. The one person, who had multiple myeloma, claimed subjective benefit; but objective confirmation was lacking. Neither mycosis fungoides nor gastric carcinoma responded favorably.

Although As[76] has the capacity to produce remissions in some of the diseases mentioned, it offers no advantage to other types of therapy, yet has the disadvantage of danger and clumsiness in handling.

RADIOSODIUM (Na^{24})

Radiosodium has not been used extensively in therapy of neoplastic diseases because of its energetic radiations (beta and gamma) and because of its short half-life (14.8 hours). As with arsenic, rather complicated handling techniques are required. Tracer amounts have been utilized for metabolic studies and determination of circulation times; but the therapeutic possibilities were first suggested by Hamilton and Stone[12] in 1937. Thygesen, Videboeck, and Villaume[13] expanded the observations in 1944, and rather extensive clinical trials were recorded by Evans et al[14] in 1948. The latter investigators administered radiosodium orally as the chloride. Absorption was prompt and complete; distribution was general; and excretion was less than 10 per cent. They considered results to be satisfactory in chronic myelogenous leukemia, chronic lymphatic leukemia, and polycythemia vera. Doses varied from 2 millicuries per week to 40 millicuries per month, and depended largely on the individual response. Inasmuch as selective uptake was absent, effective action was attributed to total body radiation. It was concluded that Na^{24} yielded results comparable to, but no better than, other forms of radiation therapy.

RADIOIODINE (I^{131})

Radioiodine is not used in the general treatment of neoplastic disease. Because of its high selectivity for thyroid tissue, indications have been restricted almost entirely to diseases of that gland. In tracer doses it is rapidly becoming a valuable diagnostic tool. Selected cases of hyperthyroidism, secondary to diffuse thyroid hyperplasia, have been found to respond to larger doses. Extremely large doses are frequently palliative in thyroid carcinoma. Response is variable, and seems to depend upon the ability of the cells to metabolize iodine, which in turn, is positively correlated with their functional capacity. In a few cases the latter has been enhanced by prior administration of thyrotropic hormone. A complete resume of radioiodine chemistry, dosimetry, and biological utilization has been compiled.[15]

NITROGEN MUSTARD

For protection against the devastating action of sulfur containing mustard gas in World War I, a thorough investigation into its pharmacological properties was instituted.[16] Similarly, during World War II, after the Germans had developed nitrogen analogues of sulfur mustard (the nitrogen mustards), such investigation was extended. It was soon recognized that the more rapidly multiplying tissues, i.e. bone marrow, lymphatics, and gastro-intestinal epithelium were preferentially attacked; and from this observation arose the idea of using the agent in treatment of diseases of these tissues. Chemical variants were promptly surveyed in this respect. Results with the Tris form (betachloro-eythlamine) were reported by Gilman and Phillips[17] in 1946. Clinical use of the methyl bis form (betachloroethylamine) was begun by Jacobson et al in 1942 and reported in 1946.[18] Simultaneous data was published by Goodman, et al[19] in 1946. Subsequent comparison of results has established the moderate superiority of the Bis compound.

ACTION UNCLEAR

The mode of action of nitrogen mustards is unclear. Rhoads[20] pointed out the similarity of effects to those of radiation. Mitotic division is inhibited, nuclei are fragmented, and cells become non-viable. Proliferation is presumably influenced much more than differentiation. In vitro, growth of yeasts and cleavage of sea urchin eggs can be prevented by dilute nitrogen mustard solutions. The chemically active agent is thought to be the eythlenimonium derivative, which is formed spontaneously as the white powder is mixed with water.



Inasmuch as this occurs rapidly and is short-lived, mixing should be done immediately (not more than 5 minutes) before administration to the patient. Physiological saline is started intravenously; and the freshly prepared mustard solution is injected into the tubing. The remainder of the 500 cc of saline is then flushed through the apparatus in order to prevent thrombophlebitis, and in order to help replace chlorides lost in subsequent vomiting. Because of direct chemical action on gastric mucosa, severe nausea and vomiting may begin within two or three hours. Heavy sedation, including barbiturates and demerol, is useful in minimizing this; although the exact amount is an individual matter. Customarily sodium amytal, 3 grs (0.2 Gm) orally, precedes the process by one-half hour. Two or three hours later 50 mgs. of demerol are given intramuscularly. After that, severity of reaction is the sole guide.

By trial and error an optimum dosage of 0.1 mg, nitrogen mustard per kilogram of body weight, given on consecutive days for four doses, has been established. Recently it has been found feasible to increase the total amount by giving 0.2 mg, 0.1 mg, and 0.2 mg per kilogram body weight respectively on consecutive days; but 0.3 mg per kilogram body weight daily for two days lead to sufficiently severe toxicity as to be impractical.

NITROGEN MUSTARD

Nitrogen mustard therapy has been employed in a multitude of diseases, with variable results. Perhaps the prime indication is Hodgkin's disease, although it is recognized that X-radiation may be superior as far as length of remission is concerned. The policy of the Hematology Department of the University of Chicago is rapidly becoming one of using X-ray when the involved nodes are localized, and nitrogen mustard when they are diffuse or widely separated. In a favorable case lymphadenopathy may begin to subside 3 to 7 days after nitrogen mustard therapy, and may have disappeared entirely by the end of three weeks. Although "resistance" per se probably does not develop, succeeding courses may become progressively less effective. Length of remissions varies from one to ten months; yet one patient, who had previously received large amounts of X-ray without notable benefit, was free from abnormal signs or symptoms for twenty-

four months after the first course of nitrogen mustards. Another individual received twenty-two courses in seven years, and finally succumbed to an overwhelming tuberculous infection with meningitis. At autopsy Hodgkin's tissue was minimal in amount, and largely limited to the mediastinum. It must be emphasized, however, that the action is similar to radiation, and serves only to retard the process.

FAVORABLY AFFECTED

Chronic lymphatic leukemia, lymphosarcoma, and polycythemia vera are usually affected favorably by nitrogen mustard. Although X-ray remains the treatment of choice in the former two, remissions of 2 to 24 months and 1 to 10 months respectively have been obtained with nitrogen mustard. Polycythemia vera apparently responds as readily to it as to P^{32}. Ten cases have been treated in this clinic to date, and they are to be reported in detail. Remissions as long as three years have been observed. Though benefit in cases of the diseases just mentioned is frequent, it is by no means constant. As a rule, those which are resistant to X-ray are also resistant to nitrogen mustard; but this, too, is not thoroughly consistent.

Chronic myelogenous leukemia, all forms of acute leukemia, and multiple myeloma are either unaffected or benefited to an insignificant degree by nitrogen mustard therapy. A small percentage of patients may experience short term palliation of severe symptoms; but the inexorable progress of the disease is unaltered. Various carcinomas, and more unusual tumors, such as sympathicoblastoma or hypernephroma have been treated with similar lack of success.

INHERENT DANGERS

Administration of nitrogen mustard is attended by the same inherent dangers as X-ray therapy. Single courses may be followed by leukopenia, thrombocytopenia, and more rarely anemia. Penicillin, and other antibiotics, have dispelled most of the customary apprehension over granulocytopenia. The idea is rapidly becoming accepted that absolute polymorphonuclear values of 1000-1200 per cmm. do not contra-indicate treatment, providing the disease process requires such, and the patient can be under careful observation. Aplasia of the hematopoietic elements of the bone marrow is known to occur[21]; but seldom is this irreversible. In 700 cases only two were the cause of any concern on this point. Recovery is usually orderly and complete. The degenerating phase may begin within twenty-four hours after completion of the course. By fourteen days the atrophic phase is usually finished, and by thirty days complete regeneration, with mild compensatory hyperplasia, has occurred. A less appreciated delayed effect of nitrogen mustard toxicity is defective blood coagulation[22], over and above that which might result from thrombocytopenia. Clotting time is prolonged, and presence of a circulating heparinoid substance can be detected by the heparin tolerance test. Intravenous toluidine blue (2 mg per kg. body weight) diluted in saline, or protamine sulfate (50 mg) intramuscularly have been found to be effective treatment. Reactivation of previously healed tuberculous foci is a possibility which must always be carefully considered. In the last twelve months two patients have died in this hospital of widespread miliary tuberculosis, presumably precipitated by nitrogen mustard treatment. Repeated precautionary examinations must be done in anticipation of this. Of the immediate toxic effects, nausea, vomiting, diarrhea, and thrombophlebitis are the only important ones. Only the latter is not self-limited.

URETHANE

Urethane (ethyl carbamate) action in depressing the number of circulating lymphocytes was investigated as early as 1925[23]. Haddow, Paterson, et al[24] were first to observe its effect in human leukemia. Since that time, several series of similarly treated patients have been recorded[25-27]. The mode of action of this drug is obscure. Phenyl carbamate was found to arrest mitotic division in a manner similar to colchicine. Eythl carbamate was even more efficacious. Some evidence exists that its action may be mediated through inhibition of the cytochrome oxidation-reduction system; yet other investigators suggest that nucleotide biosynthesis is retarded by interference with purine metabolism.

English therapists have administered urethane mostly in the form of solutions, flavored with appropriate syrups. In America enteric coated tablets are favored for moderate doses, and intramuscular injection of a 40-50 per cent solution for large amounts. Whatever the route, nausea is a common sequella, even though an average dose is only 3-4 gms per day.

COMPARABLE TO X-RAY

Urethane is most effective in chronic myelogenous leukemia. Granulocytes may be almost specifically inhibited, and the bone marrow may resemble that seen in agranulocytosis. Haddow, Paterson, et al[24] found its action comparable to that of X-ray. Of thirteen cases reported, all experienced reduction of circulating leukocytes to 20,000 per cmm or less within thirty-six days; and less mature elements were affected first. Total doses varied from 19 to 134 grams. Cases in which both urethane and X-ray were used gave no evidence either of potentiation or of mutual inhibition.

Response of chronic lymphatic leukemia to urethane is variable. Remissions, if produced, seem to be shorter than with other modes of treatment. There is no prophylactic effect if given during a remission. Trial has been extended to many neoplastic diseases, including multiple myeloma, Hodgkin's disease, lymphosarcoma, seminoma, and various carcinomas without benefit. Occasionally there is subjective palliation; but this is inconstant.

Toxic effects are similar to those following nitrogen mustard therapy, and consist chiefly of bone marrow depression and vomiting.

FOLIC ACID ANTAGONISTS

The demonstration that breast cancer in mice could be significantly inhibited by folic acid lead to its subsequent trial in humans. In the initial group of patients were eleven children with acute leukemia. The reticulo-endothelial systems in these individuals were observed to be stimulated rather than inhibited; thus the idea of folic acid "antagonists" presented itself. These were synthesized and then tested in vitro by biological titration against folic acid with growth rate of Streptococcus fecalis or Lactobacillus casei as an indicator. The first compounds were quite toxic, but effective enough to be encouraging. Finally aminopterin (4-aminopteroyl glutamic acid) was tried; and impressive remissions were first observed in November, 1947. Subsequent results have recently been reported[28].

NO FIXED DOSAGE

Heretofore, all therapeutic agents have been without benefit in acute leukemia. This does not apply to folic acid antagonists. On the contrary, they are relatively ineffective in the chronic leukemia. Aminopterin is given intramuscularly in daily amounts of 0.5 to 1.0 mg for children, and 1-4 mgs for adults. Because of frequent and severe toxicity, these amounts are given until a remission occurs, and then reduced to a more easily tolerated maintenance dose. Variable individual responses preclude a fixed dosage schedule. Overdosage may result in bone marrow aplasia,

stomatitis, melena, gastro-intestinal ulcerations, or megaloblastic anemia. Large amounts of folic acid do not alleviate these symptoms, unless the medication is discontinued. A general hemorrhagic tendency, similar to that seen after radiation [29] may occur, but can usually be adequately controlled with protamine sulfate or toluidine blue.

When aminopterin is effective in acute leukemia, immature white cells disappear from the circulation, red cells and platelets shift in a favorable direction, and the bone marrow reverts toward normal. Clinical improvement may be marked; but remissions are short-lived. Because of variations in the natural course of leukemia it is difficult to prove that significant alterations have been produced by folic acid antagonists; yet it is important that a synthetic compound has been found which will cause the bone marrow to change so that, temporarily, it cannot be distinguished from normal. It is hoped that more efficacious and less toxic substances will be discovered in the near future.

MISCELLANEOUS

In addition to the preceding established therapeutic agents, others have been tried, found to have some beneficial effect, and then discarded for one reason or another. The fact that they have not withstood the test of clinical application is overshadowed by the fact that they represent proof of carcinocidal effect of diverse synthetic compounds. Successful chemical treatment of neoplastic disease may well be brought closer by such observations.

Clinical alleviation, by administration of stillbamidine (diamidino-stilbene-di-isothionate) of patients suffering from multiple myeloma was first reported by Snapper[30] in 1946. Of ten patients, 9 were observed to be improved. Specific morphological changes in myeloma cells were recognized[31]; and interference with protamine ribonucleate metabolism was postulated. Subsequent trial by many therapists have shown that clinical improvement is not so constant as originally thought; hence, clinical use is decreasing.

Bacterial polysaccharide from Serratia marcesens, as well as from other organisms (e.g. Coley's mixed polysaccharides) have been found to have a destructive effect on many animal tumors. The necessary dose for human beings is extremely pyrogenic. Because of this, and because of unpredictable response, clinical use has been largely discontinued.

PROFOUND EFFECT

In studies on the action of colchicine in the deranged purine metabolism of gout, the presence of a

TABLE I

		P^{32}	As^{76}	Na^{24}	I^{131}	Nitrogen Mustard	Urethane	Folic Acid Antagonists	X-ray
Myelogenous Leukemia	Acute	O	±	±	—	O	O	++	O
	Chronic	+	++	++	—	±	+++	O	+++
Lymphatic Leukemia	Acute	O	±	O	—	O	O	++	O
	Chronic	++	+	++	—	++	++	O	+++
Lymphosarcoma		++	—	+	—	++	+	—	+++
Hodgkin's Disease		O	O	+	—	+++	O	—	+++
Giant Follicular Lymphoma		±	—	—	—	+++	±	—	+++
Polycythemia Vera		+++	++	+++	—	+++	O	—	++
Multiple Myeloma		O	+	—	—	O	O	—	±
Reticulum Cell Sarcoma		±	—	—	—	+	O	—	++
Mycosis Fungoides		O	O	—	—	+	O	—	++
Carcinoma		±	O	—	Thyroid	O	O	—	±

— Not tried
O No effect
± Inconstant effect
+ Subjectively beneficial
++ Objective evidence of benefit
+++ Usually followed by remission

profound effect on nuclear metabolism became evident. Soon thereafter significant regression of animal tumors was demonstrated. In human beings, however, the difference between effective and toxic doses was too small to be practical.

Compound E of Kendall, adrenocorticotropic hormone (ACTH), and adrenocortical hormones are known to cause a decrease in the number of circulating lymphocytes, as well as general depression of lymphoid tissue. At autopsy, many of the hematological diseases are accompanied by gross hypertrophy of the adrenal cortices. Administration of the above compounds has been shown to have a slight inhibitory action in animal lymphomas. Experience in the human being is as yet incomplete.

The most recent metabolic inhibitor, Quanozolo, is known to depress growth of certain animal cancers[32], presumably by selective competition with guanine in purine metabolism. Inhibition, rather than destruction, of cells is postulated. Reports of clinical use are awaited.

SUMMARY

A summary of the therapeutic effectiveness of certain of the radioactive elements and chemotherapeutic agents is given in Table I.

CONCLUSIONS

1. The more recent radioactive and chemical agents employed in the treatment of neoplastic diseases are reviewed; and relative results are given.
2. Despite recent advances, X-ray probably remains the treatment of choice in all such diseases, with exception of acute leukemia.

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BOOK REVIEW

NAVAJOS, GODS, AND TOM-TOMS: S. H. Babington, M. D., F. I. C. S., Greenberg: Publisher, 1950. Price - $3.50 - pp 242.

Dr. Babington has written a narrative account of his experiences with the Navajos. The doctor is a practicing surgeon, and his observation of the Navajo tribe and their customs is that of a physician. He has been particularly interested in the various healing ceremonies, and in the various methods of treatment used by the native healers. His observations are timely. In these days when we are beginning to treat the patient as a human being, not an organism, we find ourselves depending on psychosomatic medicine more and more.

As one reads this account, one is struck by the fact that apparently the native medicine men are able to apply psychosomatic therapy perhaps a great deal better than many of us who are in the active practice of medicine. It should be of great interest to physicians in the Southwest to know how much the Indian medicine man depends on the native herbs. The most common herbs, grasses, etc. are all put to use. For example, the Jimson weed serves as a definite narcotic. Greasewood and sagebrush are considered to be wonderful aids to a delivery, and surprisingly enough, the lowly buttercup in powder form is taken every morning for syphilis.

Dr. Babington has lived among these people. He has studied their customs, and he has written an extremely interesting treatise that should be read by all the readers of SOUTHWESTERN MEDICINE. The Navajos are our neighbors, and I believe that the reading of this interesting volume will lead us to understand their customs and viewpoints more fully, to the advantage of all concerned. — L. C. F.

THE CERVICAL SYNDROME

By Ruth Jackson, M. D., Dallas, Texas

Cervical Syndrome is a term used to classify a group of cases which present definitely similar symptoms and clinical findings, the causative factor of which is irritation of the cervical nerve roots. To adequately interpret this syndrome one must have a knowledge of the anatomy and mechanics of the cervical spine, the segmental character of the cervical nerves, and the relationship between the cervical nerves and the sympathetic nervous system.

The facets of the cervical vertebrae are designed so that a great range of motion in all directions is possible. The foramina through which the nerve roots pass are bony canals, the posterior walls of which are formed by the articular processes of the adjacent vertebrae, and the anterior walls and floors of which are formed by the grooves in the roots of the vertebral arches. The nerve roots leave the spinal cord at an angle which approximates a right angle, and they fill fairly snugly the foramina through which they pass. This makes them very vulnerable to irritation from any mechanical derangement of the cervical spine. Irritation of these nerve roots occurs before they divide into anterior and posterior primary rami.

DISTRIBUTION SEGMENTAL

The distribution of the nerve roots is segmental in character. There is a definite overlap of the nerve supply to adjacent segments in any given skin area. Painful irritations or stimulation of a muscle may cause pain anywhere along the segmental distribution of the nerve. For instance, irritation of the dome of the diaphragm or the pericardium may cause pain in any of the muscles or areas supplied by the fourth cervical nerve root and vice-versa. The segmental distribution of the cervical nerve roots, the sensory overlap, and the reflex phenomenon of pain make the exact localization of nerve root irritation somewhat difficult.

The cervical nerve roots are composed of motor and sensory fibers only as compared with the thoracic and upper two lumbar nerve roots which contain sympathetic fibers, or white rami communicantes. The sympathetic nervous system has its connection with the cervical nerve roots through the upper two thoracic nerves which join the cervical part of the sympathetic trunk via their anterior primary rami, and proceed upwards to the cervical ganglia. From the superior cervical sympathetic ganglia gray rami communicantes pass to the undivided primary rami of the upper four cervical nerves. Two gray rami-communicantes from the middle cervical ganglia and two from the inferior cervical ganglia pass to the undivided primary rami of the lower four cervical nerves. Other gray rami communicantes, or post ganglionic fibers, pass along the internal carotid and opthalmic arteries to reach the orbit where they supply the back of the orbit, the vessels of the eyeball, the dilator muscle of the pupil and the smooth muscle of the upper eyelid. Irritation of these post ganglionic fibers may produce symptoms and clinical findings, such as: blurring of vision and vertigo, dilatation of the pupil, and ptosis of the upper eyelid on the side of the irritation, which may appear to have no relationship to the other symptoms and clinical findings associated with irritation of the cervical nerve roots.

IRRITATION OF ROOTS

Irritation of the cervical nerve roots occurs as a result of some mechanical derangement in or about the intervertebral foramina. The most common cause of irritation is abnormal motions, or subluxations of the joints of the cervical spine which occur because of sprain, stretching, or relaxation of the ligamentous and capsular structures. Ruptured or protruding intervertebral discs, hypertrophic changes and osteophyte formation in or about the intervertebral foramina, swelling of the capsular structures from inflammatory and allergic reactions or from hemorrhage may cause irritation of the nerve roots. Any sudden unguarded motion of the neck or any prolonged relaxation of the neck in an abnormal position may cause a subluxation with actual locking of the facets on one side. Other causative factors may be due to relaxation of the supporting structures of the cervical spine which may be part of a general process due to illness or increasing age, or to generally poor posture. The thoughtless roughness in the handling of patients when under a general anesthetic has been responsible for cervical nerve root irritation in many instances.

The amount of irritation and hence the symptoms and clinical findings are not dependent upon the extent of the derangement, in-as-much-as minimal derangements may produce severe symptoms and marked derangements may cause only mild symptoms. Individual variations in the mechanics involved and in the pain threshold may account for this.

WHIP-LASH INJURIES

The whip-lash type of injury, as described by Davis, is responsible for the greatest percentage of cervical nerve root irritations. Any injury which causes a sudden forceful movement of the neck, depending on the direction of the force, with a sudden recoil in the opposite direction may be called a whip-lash. Such injuries cause typical sprains of varying degrees with subluxation of the articular processes and stretching, tearing, or avulsion of the ligamentous and capsular structures. Automobile accidents are responsible for the greatest number of such injuries. However, falls, blows on the head or chin, a sudden forceful pull on the arms, and many other apparently trivial injuries may cause a whip-lash, or a sudden "popping" of the neck. Symptoms may occur immediately or may be delayed weeks, months, or years. Usually the injury is considered insignificant, but as time passes there occurs further stretching of the ligamentous and capsular structures which allows more abnormal motions or subluxations of the joints with resulting nerve root irritations.

Rupture or protrusion of one or more intervertebral discs may occur at the time of the injury, or much later as the result of some very trivial injury, in-as-much-as the relaxation of the ligamentous and capsular support makes the discs more vulnerable to rupture. Ruptured discs may or may not cause immediate nerve root irritation. This is dependent upon the location of the protrusion or herniation.

POOR POSTURE

Not infrequently cervical nerve root irritation is caused by poor general posture. Markedly rounded shoulders cause an increase in hyperextension of the neck which may eventually cause subluxations to occur. The loose-jointed type of posture predisposes to nerve root irritation.

Cervical nerve root irritation may occur at any age, but the greatest number of patients who seek relief of their symptoms are in the third and fourth decades of life.

The diagnosis of nerve root irritation is based on the history, symptoms, clinical and X-ray findings. It

must be remembered, however, that the exact localization of the irritated nerve root is difficult because of the segmental character of the distribution of the cervical nerves and because of the overlap of the cutaneous nerve supply, and because of the lack of clinical criteria for differentiation. However, the symptoms and clinical findings are not dependent upon the cause of the irritation.

A careful history will reveal an injury to the neck which may have occurred immediately preceeding the onset of the symptoms or weeks, months, or years before. Usually the injury itself is of little significance to the patient.

400 CASES

An analysis of the histories on 400 cases with cervical nerve root irritation has revealed that all cases can be grouped according to their symptoms. Every case will fall into one of the following classifications.

1. Patients with acute symptoms following a recent injury.
2. Patients with chronic symptoms of long duration.
3. Patients with severely acute well localized pain who have had previous chronic symptoms.

The acute symptoms in this third group of cases are always caused by sudden motion of the neck, such as: stooping over suddenly to brush the teeth, wash the face, or to pick up something which causes a sudden hyperextension of the neck; throwing a ball or any other object which causes a sudden turning of the head; reaching over the back of an automobile seat, or any other seat; catching oneself with the hand or shoulder to prevent a fall, turning over in bed, and many other apparently simple activities. This group of patients usually get sudden severe pain in the tip of the shoulder, which makes them think the shoulder has been injured, or they get severe pain in the chest, or in the muscles of the posterior part of the shoulder girdle so that they think they have pleurisy.

STIFFNESS AND PAIN

Regardless of which nerve root or roots may be irritated all patients have a certain amount of stiffness and pain in the neck, and many give a history of "cricks" in the neck. If the upper roots, C2, C3 and C4 are irritated, they may complain of occipital headaches which are often typical of migraine, blurring of vision, dizziness and nausea especially when attempting to lie down, numbness of the side of the neck, tension and "knots" in the neck muscles and swelling and stiffness of the fingers. If the 4th and perhaps the 5th nerve roots are irritated they may complain of shortness of breath, palpitation of the heart, pain in the chest, and localized pain in the muscles between the neck and the shoulder joint or between or about the shoulder blades. The pain may occur on either or both sides of the body or on first one side and then the other.

Involvement of the fifth nerve root which, according to our analysis, is the most frequent and may cause pain between the shoulders, pain in the chest, pain at the tip of the shoulder and/or in the middle of the arm and sometimes just below the elbow on the top of the forearm, and numbness and tingling of the thumb and/or index finger. Stiffness of the shoulder and/or weakness of the arm with inability to comb the hair, fasten a brassiere, or to reach the hip pocket are frequent complaints. Irritation of the sixth and seventh nerve roots may cause pain in the shoulder, arm, forearm, chest and numbness and tingling of the index, middle and perhaps the ring fingers.

VARIED SYMPTOMS

All or any of the symptoms may be acute or chronic or intermittent. Usually the symptoms are multiple and if they are chronic the patients have been treated for neuritis, migraine, arthritis, bursitis, fibrositis or fascitis.

In all instances the symptoms are aggravated by certain motions and positions of the neck. Sewing, reading, driving a car, or any occupation or pleasure which necessitates holding the neck in flexion, hyperextension, rotation or lateral bending for any length of time increase the symptoms. Aggravation of symptoms are found in women just prior to, or during, menstruation and in both sexes during upper respiratory infections, and by emotional strain and fatigue. In most instances the symptoms are worse at night and the patients have difficulty sleeping. Many patients sleep on more than one pillow, in an effort to get away from the pain which causes flexion of the neck. Some sleep without any pillow which leaves no support beneath the neck, and some sleep in the prone position which necessitates marked rotation of the neck. All these positions, as well as the relaxation of the supporting structures of the neck during sleep tend to aggravate the symptoms.

CLINICAL FINDINGS

The clinical findings vary somewhat with the nerve roots involved, but all have certain findings in common. Localized tender areas are found anywhere along the segmental distribution of the nerve roots. All patients have variable amounts of limitation of motion of the neck in lateral bending, rotation, flexion and extension, and tenderness just lateral to the spinous processes of the neck on one or both sides. Localized myalgic areas and muscle spasm in the ridge and lower portion of the trapezius and in the supraspinatus muscle or tendon are fairly constant findings in fourth nerve root irritation. In fifth nerve root irritation such areas are found in the rhomboid muscles, at the tip of the shoulder, at the insertion of the deltoid, and not infrequently in the extensor muscles of the forearm.

Tenderness in the anterior and lateral chest wall is often found. Varying degrees of limitation of glenohumeral motion in abduction, internal and external rotation occurs in about twenty (20) percent of these cases. This is due to pain and to an adhesive capsulitis, which results from the prolonged protective reaction of voluntary immobilization. Many of these patients develop calcareous deposits in the tendons, (usually the supraspinatus) of the musculotendinous cuff. The deposition of calcium in this region is doubtless due to the circulatory changes which occur as a result of muscle spasm and limitation of motion. Paresthesia over the distribution of the cutaneous branch of the axillary nerve occurs almost constantly. The biceps and triceps reflexes may be altered or absent in 5th, 6th, and 7th nerve root irritation; and there may be in a small percentage of cases paraesthesias of the thumb and fingers.

Pressure over the involved nerve root or roots and the compression test may reproduce the radicular pain, but do not give much added information as far as diagnosis is concerned. Whatever the causative mechanism of nerve root irritation the clinical findings are the same. Perhaps electromyography may be of some value in localization and differentiation of the irritative factors.

Again, we repeat, the segmental character of the cervical nerves and the sensory over-lap make exact localization of the nerve root or roots involved difficult. We believe that irritation of a single nerve root occurs in only a small percentage of cases, which accounts for the multiplicity of symptoms and clinical findings. However, many of the findings are difficult to understand on the basis of an exact anatomical explanation. For example, why should an injection of novocaine about the fourth nerve root cause momentary pain, or tingling of the little and ring fingers?

X-RAY FINDINGS

X-ray films of the cervical spine should be made in all cases. We use the technique described by Davis. Three lateral views are made with the patient in the upright position and with the X-ray tube at seventy-two (72) inches from the casette. The films are made with the patient looking straight ahead, with the chin on the chest, and in hyperextension. The straight lateral position reveals the presence of muscle spasm of the neck muscles as evidenced by the obliteration of the normal forward curve of the cervical spine and in some cases a segmental reversal of the curve. The chin-on-the-chest position reveals forward subluxations and the hyperextension position reveals posterior subluxations of the bodies of the vertebrae. It must be remembered, however, that the amount or extent of the subluxations is not indicative of the amount or extent of the nerve root irritation. Marked mechanical derangements may produce minimal symptoms, and slight mechanical derangements may produce severe symptoms! We believe that subluxations in the cervical spine are abnormal and occur because of stretching, tearing or undue relaxation of the ligamentous and capsular structures, although some radiologists disagree with this opinion.

SINGLE SUBLUXATIONS

Single subluxations occur in about fifteen per cent of the cases, and about one half of these occur between C4 and C5. Approximately one per cent occur between C3 and C4, one per cent between C5 and C6, and five tenths (0.5%) between C2 and C3 and eighty to eighty-five per cent of the cases show more than one subluxation and some of these show as many as four subluxations. The greatest percentage of two or more subluxations occur above the 5th cervical vertebrae.

Approximately forty per cent of our cases have shown definite narrowing of one or more intervertebral spaces. This is indicative of ruptured discs, but there is no way of ascertaining from the X-ray films just when the rupture occurred. Hypertrophic changes marginal lipping or osteophyte formation do not indicate how long a ruptured disc has been present, nor do they indicate the age of the patient. These changes are initiated by the mechanical derangement; and for psychological reasons they should not be designated as arthritis. Nature is only making an effort to overcome the mechanical stress and strain by attempting to immobilize the adjacent vertebrae. We have noted that fixation of the vertebrae adjacent to a narrowed disc is a constant finding and that motion and subluxations occur above or below these vertebrae. The onset of acute episodes in most of these cases is due to a recent sprain or injury with nerve root irritation above or below the level of the fixed vertebrae.

OBLIQUE POSITION

X-ray films made in the oblique position may give additional information concerning the foramina. Hypertrophic changes or spur formation projecting into the intervertebral foramina, and anterio-posterior narrowing of the foramina can be demonstrated in the oblique views.

In 90% of our patients who have given occipital headaches or migraine as a symptom we have found subluxations of C2 on C3, and of C3 on C4, in the other 10%. This leads us to believe that irritation of the third nerve root is responsible for most of the headaches. However, there may be a sympathetic factor responsible for these headaches due to irritation of the post ganglionic fibers from the superior cervical ganglion. This accounts for the blurring of vision and the dilation of the pupil on the side of the nerve root irritation. (Opposite Horner's syndrome).

TREATMENT

The severity and duration of the symptoms, the clinical and X-ray findings govern the treatment of these cases; and in any event the treatment must be individualized. Conservative or non-surgical treatment will give the best results. From the beginning the patient should be taught that the symptoms can be relieved by fairly simple measures, but that he must adjust his activities to the mechanical derangement of his neck.

Patients who are seen immediately following an injury to the neck should have the benefit of some type of collar immobilization for about three weeks. If there is actual locking of the facets, two per cent novocaine should be injected about the involved facets. It may be necessary to apply halter traction for two to four days before the collar is applied. The correct application of the traction is extremely important. The knees should be flexed and the head elevated to prevent the pull on, and the pain in, the abdominal muscles. The line of traction should be straight and either flexion or hyperextension should be avoided.

NOVOCAINE INJECTION

The patients with sub-acute and chronic symptoms may require the injection of novocaine into the myalgic areas for relief of pain. The injection may be made in the neck muscles and about the involved nerve root or roots. Breaking the pain reflex with a local anaesthetic, if done correctly, gives immediate relief of pain which lasts for days, weeks, or months. There may be some residual soreness from the injection for two or three days, but the acute symptoms will subside at once. Diathermy treatments daily or three times each week help to relieve pain and muscle spasm.

If the general posture is poor, shoulder straps are often of great value in the relief of pain and discomfort. Correct postural habits must be taught, and the patients should know the mechanics involved for the relief of symptoms and the prevention of future attacks. They should avoid holding the neck in flexion or hyperextension for any length of time. Reading stands to hold the reading material at eye level, lowering desk chairs or raising desks, raising the auto seat, and many other simple adjustments are of great benefit.

Because many patients complained of aggravation of symptoms while in bed, and because correct sleeping posture is important in the treatment of these patients, we designed a special pillow, which has been our greatest adjunct in treatment. The pillow fits the normal contour of the neck and keeps the neck straight while the patient is sleeping. The conventional pillow causes flexion of the neck and aggravates the symptoms. In some instances the "contour pillow" without other treatment, gives relief of symptoms.

STIFF SHOULDERS

The stiff shoulders should be treated by novocaine injections, diathermy, and intensive physical therapy. Vitamin E given intra-muscularly and tolserol by mouth in the sub-acute and chronic cases give relief of muscle spasm or tension in many instances. Emotional stress and strain should be eliminated in all cases, if possible.

The importance of cervical investigation in any patient with shoulder and arm pain and/or disability in the absence of actual trauma to the shoulder or arm cannot be over stressed. The usual diagnosis of neuritis, bursitis, periarthritis, myositis, fibrositis, and myofascitis of the shoulder and arm should not be made until cervical nerve root irritation has been ruled out entirely. Usually these conditions are only manifestations of cervical nerve root irritation.

HAVERHILL FEVER (ERYTHEMA ARTHRITICUM EPIDEMICUM) DISCUSSION OF THE JOINT MANIFESTATIONS*

By Robert A. Morse, M. D., Hermann Hospital and Baylor University College of Medicine, Houston

Haverhill Fever (Erythema Arthriticum Epidemicum) is a disease which is rarely considered in the differential diagnosis of acute infectious arthritis because it is a rare disease which comparatively few of us have had the opportunity to observe and study. The disease is defined as an acute infectious disease manifested by an abrupt onset with chills, fever, and malaise; an early skin eruption, and multiple arthritis; having a relapsing course of four to eight weeks duration with spontaneous recovery.[1] It was first described in 1926 by Place, Sutton, and Willner[2] who reported an epidemic of eighty-six cases which occurred in the city of Haverhill, Massachusetts. Since that time forty-six sporadic cases have been reported, primarily from the New England and Middle Atlantic states, with a few from the Middle Western and Southeastern states. One case was reported from Dallas in 1946,[3] and we observed one case in Houston in 1948.[4]

ETIOLOGIC AGENT

The etiologic agent is the Haverhillia multiformis (streptobacillus moniliformis), a small, extremely pleomorphic, gram-negative rod which is grown with some difficulty.[5] The organism is a normal inhabitant of the naso-pharynx of the rat, and usual mode of transmission is via the bite of a rat. In the original Haverhill epidemic the milk supply was suspected to be the source of the infection. There have been approximately sixteen cases reported in the literature in which no rat bite was present and the portal of entry was not known. The association of this disease with the bite of a rat has led to considerable confusion with the more common form of Rat-Bite Fever (Soduku) which is due to infection by the Spirillum minus. A clinical differentiation is possible by the fact that Soduku is not characteristically associated with rheumatic manifestations.

ARTHRITIS OBSERVED

Arthritis of some degree has been observed in approximately seventy per cent of the reported cases.[6] In the original report of the disease the arthritis was the most persistant symptom. It became apparent between the first and the fourth day of the disease and was almost always multiple, usually involving the large joints. The joints varied from subjective pain with no objective findings to well marked swelling and redness with effusion into the joint. The joint manifestations subsided soon after the subsidence of the fever usually leaving no residua. The wrists and elbows have been the joints most commonly involved, then the knees, shoulders, fingers, and ankles. Tenderness, pain on motion, increased local heat, periarticular swelling and edema, and varying degrees of intra-articular effusion are usually present. In most of the reported cases roentgenographic examination of the involved joints has shown only widening of the joint spaces and periarticular thickening. However, evidence of bone destruction has been reported.[1,7] In general the involved joints have completely subsided, leaving no residua. A few cases have been reported in which follow-up for a two year period or longer has revealed persistent, recurrent swelling and pain.[1,7] No permanent crippling of joint function has been noted.

FATAL CASE

Our case, a fatal one, was followed for a period of eighteen months. During that time the patient had three acute episodes of fever and multiple arthritis of eight, fourteen, and eight weeks duration, and the terminal recurrance which lasted seventeen days. The recurrances were separated by complete remissions lasting four, three, and thirty-six weeks. During the exacerbations the patient had severe arthritis involving the fingers, wrists, elbows, knees, and ankles. The joints were swollen, hot, tender, and painful on motion, and there was marked periarticular swelling and effusion into all of the involved joints. With the remissions in the disease the joint manifestations subsided and the joints became objectively and subjectively normal.

The fluid aspirated on several occasions from the knee joints of this patient was viscid, somewhat cloudy, and congealed almost immediately. Microscopic examination revealed the cellular elements to be ninety per cent polymorphonuclear neutrophiles. The Haverhillia multiformis was cultured from the fluid on several occasions.

DIAGNOSIS

The diagnosis can be suspected by the clinical picture of an abrupt onset with chills and fever; an early, generalized, maculo-papular skin eruption; and multiple arthritis. The suspicion is strengthened if a history of previous rat bite is obtained. The confirmation of the diagnosis is the demonstration of the Haverhillia multiformis by culture of the blood or joint aspirate, or both, on protein-enriched media under anaerobic conditions.

Prior to the introduction of penicillin, treatment was non-specific and supportive. Autogenous vaccines,[8] arsenicals,[7] and sulfonamides[9] were of no value. Penicillin has been proven to be successful in the treatment of a number of cases.[10,11] One reported case which did not respond to penicillin was successfully treated with streptomycin.[12] Our case failed to respond to either antibiotic, and in vitro the organisms were inhibited only in very high concentrations of the drug.

SUMMARY

1. A brief review of the arthritic manifestations of Haverhill Fever (Erythema Arthriticum Epitemicum) is presented.

2. It is pointed out that two cases have appeared in this section of the country within the last four years.

3. It is suggested that this disease should be considered in the differential diagnosis of unexplained acute and/or chronic arthritis associated with fever, especially if there is a history of previous rat bite.

4. The diagnosis is confirmed by culture of the

* Delivered before the Texas Rheumatism Association in San Antonio, 1949.

etiologic agent, Haverhillia multiformis, from the blood and/or joint aspirate.

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Prophylactic Treatment of Rheumatic Fever

The studies at the House of the Good Samaritan (Boston) have been summarized as follows by Sturgis[1]. "Massell, Dow, and Jones[2] reported in 1948 that 15 patients with rheumatic fever who were promptly treated with penicillin for clinical or subclinical hemolytic streptococcal infections did not get recurrences of rheumatic fever. For the past two years, Sturgis, Massell, and others have been collecting further data. This has been done not only on hospitalized patients, but also on a group of rheumatic fever patients who have been closely followed at home. To date a total of 34 patients have had clinical type A beta hemolytic streptococcal sore throats. Twenty-four cases received prompt treatment with penicillin with no recurrence of rheumatic fever developing. Of the 10 patients who did not receive penicillin, 4 had a definite recurrence of rheumatic fever and 1 had a probable recurrence. Thus a recurrence rate of at least 40 per cent and probably of 50 per cent was found in those patients who were not treated with penicillin in contrast to an attack rate of 0 per cent in the treated patients. Although the number of patients is small, these data suggest that early penicillin treatment of hemolytic streptococcal infections in rheumatic fever susceptible individuals may prevent attacks of rheumatic fever. It is hoped that by the spring of 1950 sufficient data will have been obtained to warrant further publication."

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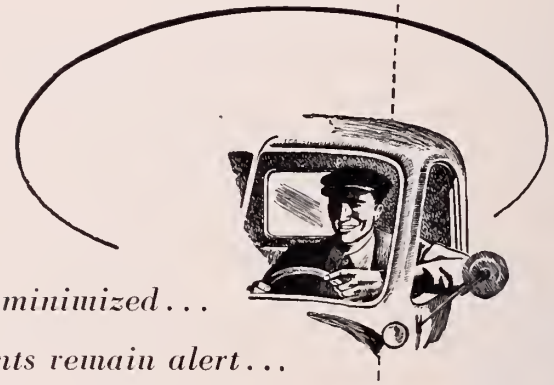
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1. Nesbit, R. M., and Glickman, S. I.: J. Michigan State M. Soc. *46*:664, 1947.
2. Dodson, A. I.: West Virginia M.J. *45*:1, 1949.
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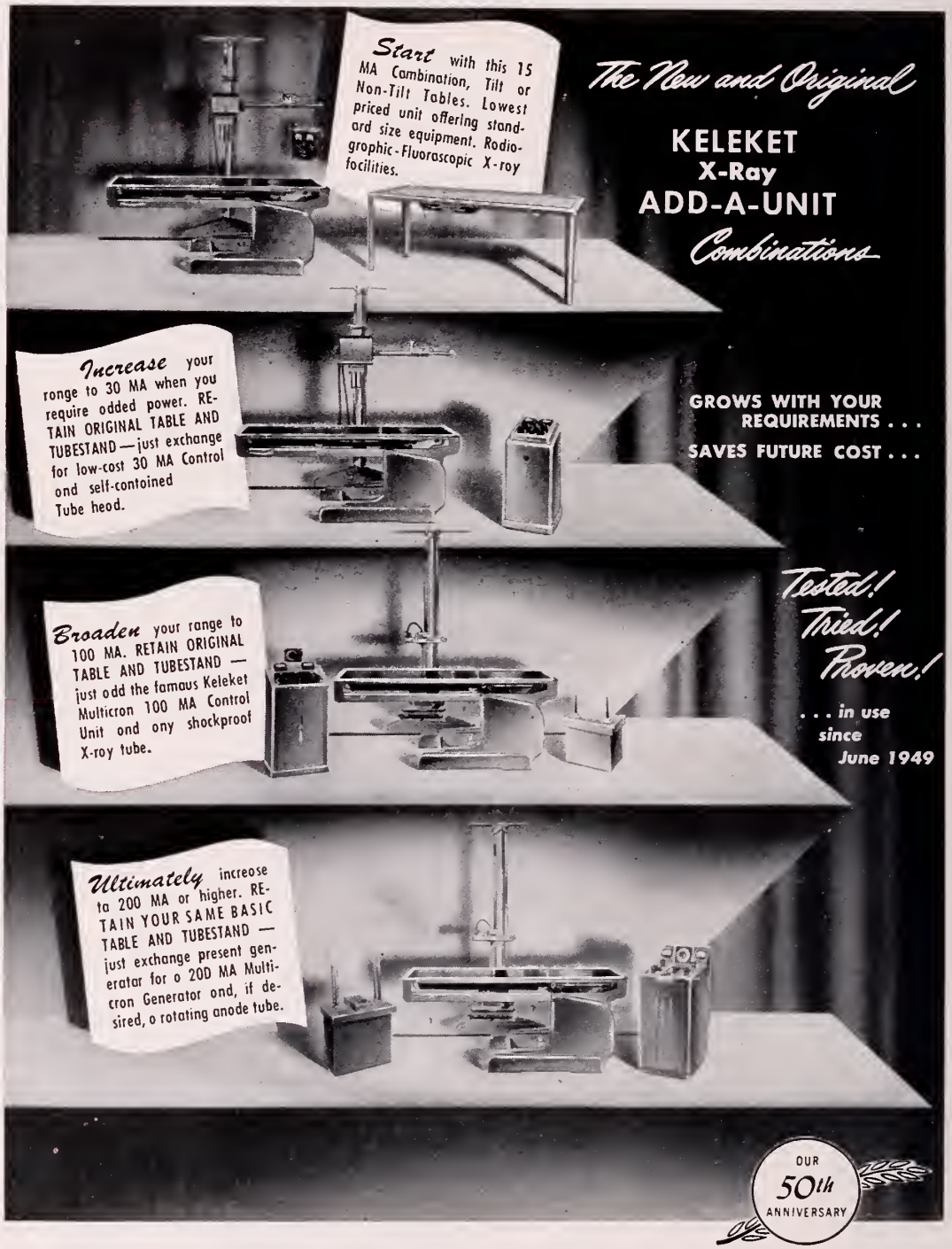
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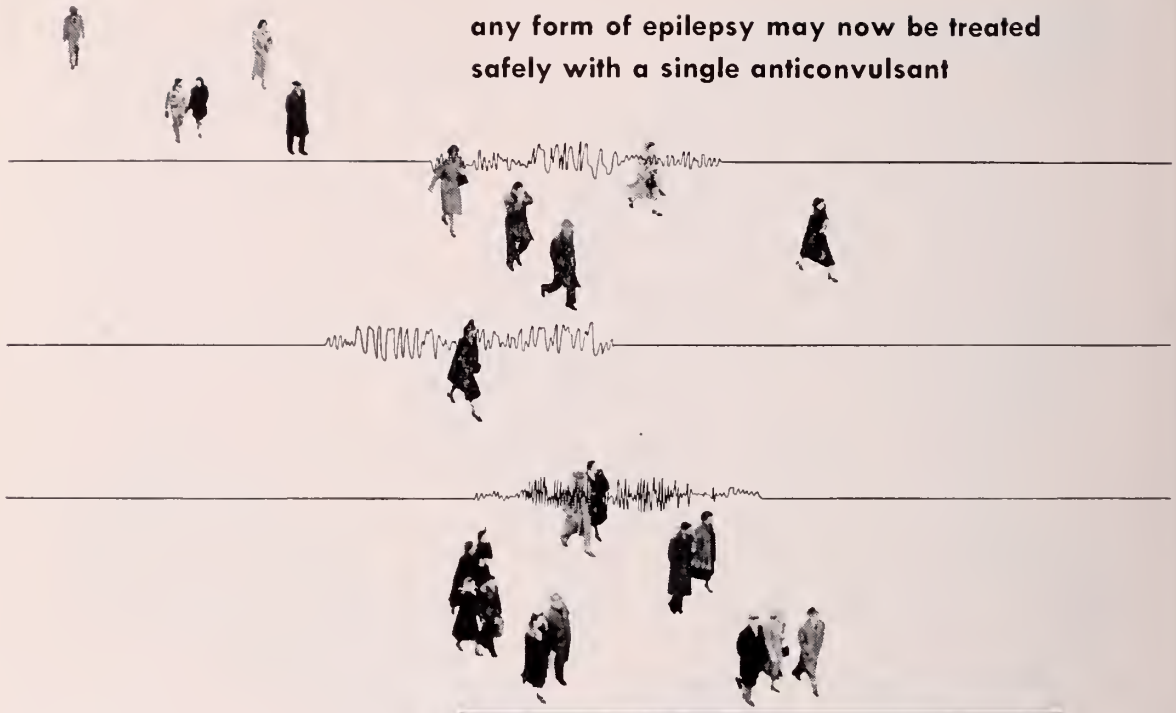
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SPLENDID PROGRAM SCHEDULED FOR SOUTHWESTERN MEETING

SOUTHWESTERN MEDICINE takes great pleasure in presenting the preliminary groundwork which has been done in anticipation of the annual meeting of the Southwestern Medical Association which takes place in Phoenix, at the Westward Ho, Oct. 26 - 28. The medical profession in Phoenix is leaving no stone unturned in an effort to make this a profitable and worthwhile scientific assembly. They have been able to furnish the medical profession of the Southwest with a speaker-team which represents men nationally known in their respective specialties.

While the program is not as yet complete, the following speakers will be present:

William Dock, M. D., Professor of Medicine, Long Island Medical School, Brooklyn, New York.

Stewart Wolf, M. D., Associate Professor of Medicine at Cornell University.

John H. Lawrence, M. D., University of California, Chief of the Donner Laboratory of Medical Physics.

Joseph Gale, M. D., Professor of Surgery, University of Wisconsin.
George Piness, M. D., Los Angeles, a leader in the field of allergy.
Salvadore Zubiran, M. D., Professor of Medicine, University of Mexico.
Leon Goldman, M. D., Associate Professor of Surgery, University of California.

Maxwell M. Wintrobe, M. D., University of Utah, eminent hematologist.

During 1950 cortisone and ACTH have come to the front in the treatment of various conditions, and the profession will have the opportunity of obtaining first-hand information from teachers who have had considerable experience with the use of these two preparations. It is extremely fortunate that the Southwestern Medical Association has been able to obtain this galaxy of medical talent; and it is suggested that the profession in general mark their calendars and make it a point to be in Phoenix Oct. 26 - 28. A large and enthusiastic attendance is the only recompense for the hard work of the Phoenix physicians who are endeavoring to make this a banner presentation.

THERE IS NOTHING NEW UNDER THE SUN

In a collection of old books and periodicals belonging to Dr. Caryl C. Hill, El Paso, Texas, optometrist, is a copy of an interesting book, "The Family Adviser", written by John Wesley, founder of the Methodist Church. About 1745, Wesley came to America to visit his churches and missions and saw a great need for family health instruction among the settlers. Therefore, he collected from the works of Hume, Cullen, and McBride, the best medical authorities of the time, what he considered the most important facts about the common diseases. A typical example of this work is this chapter on mumps.

"The Family Adviser" was not published, however, until 1795, or two years after Wesley's death. Hitt and Ware of Philadelphia probably had the manuscript in their possession all this time, since they were the official printers for the Methodist Society in the United States.

Bound with it is a volume of Premative Physics, which lists a large number of remedies, concoctions, and therapeutic procedures recommended by Wesley. The Premative Physics was first published in London in 1747, and the 27th edition is included with this volume of "The Family Adviser." According to the preface this edition was printed in 1814, but when the two were combined into one volume is not known. — Russell Holt, M. D., El Paso.

The physician columnists of today, who answer letters regarding diagnosis and therapy of common disorders are, let us say, cautious in their recommendations. This caution has in all probability developed due to the better state of the medical ethics existing at the present. Now at least the patients are advised as to their personal hygiene and advised to see their local physician. Such was not the case in early Colonial United States.

Very recently your editor was able to read a medical treatise designed for the consumption of the laity, called "The Family Adviser". This well may be one of the first books of this type written. It does not contain the finesse of Dr. Fishbein, but it has the same purpose as the lay texts of this modern era. When one considers that this text was written in 1798, before really scientific medicine, it is extraordinary that physicians at this time should be able to diagnose certain diseases entirely by the history and their powers of observation. Most of the subject matter of this lay publication was drawn from the works of Hume, Cullen, and McBride, prominent English physicians of this age. When one reads the book carefully, it is found that perhaps we haven't made such tremendous progress along certain lines. For example, the short chapter, No. 13, entitled "The Mumps" reads as follows:

THE MUMPS

"The Mumps: Contagion is the cause of this complaint. It makes its appearance with the usual febrile symptoms of chills, succeeding heat, and quickened pulse. This is shortly followed by a swelling at the corner of the lower jaw of a moveable glandular nature, and in a little time it diffuses itself over the whole neck. Sometimes both sides are affected. It continues, increasing until about the fourth day, and then declines with fever. As the swelling recedes, some tumour is apt to take place in the testes of the male, and the breast of the women. Sometimes when this has not taken place, or when it has been repelled by imprudent applications, the fever has continued or increased with delirium.

Management: The patient should be kept on a low vegetable diet and not exposed to cold. The above generally will be sufficient, but when the circumstance mentioned takes place, it will be necessary to direct something more than the above.

Cure: We should apply warm, stewed, bitter herbs, or warm bread and milk poultices to the parts, and if the fever and delirium be considerable, the patient should be bled, if he is able to bear bleeding. Otherwise a puke should be the only evacuant, viz. fifteen grains of ipecacuana, more or less, according to the patient's age — Besides this or these, it may be necessary to apply a blister to the back of the neck. In slighter cases, the puke and fomentations will be sufficent. In all cases, cotiveness should be prevented by clysters, castor oil, or salts."

SAME COMPLICATIONS

One hundred and fifty-seven years have elapsed, and while we do not bleed patients, we still have the same complications that apparently existed at this time; the delirium, undoubtedly, means encephalitis, a complication to which therapeutic approach still leaves much to be desired.

The treatment of anemia at this time made use of iron. How much iron the patient really got would be indeed questionable, but the following prescription if used in large amounts, while it might not improve the anemia, might well contribute to the patient's sense of well-being. The prescription in vogue at that time was as follows:

"**Tincture of Stell or Iron, No. 78.** On a handful of flakes that fly off round the anvil (in a blacksmith's shop) pour a quart of port wine: let it stand a few weeks, and then use half a wine-glass full, once, or twice, or three times a day."

"PRIMITIVE PHYSIC"

At this time it was well recognized that the psyche contributed to disease states,[1] and John Wesley in 1747 in a treatise called, "Primitive physic"[2] made the following observation: "1. The passions have a greater influence on health than most people are aware of. 2. All violent or sudden passions dispose to, or actually throw people into acute diseases. 3. The slow and lasting passions, such as grief and hopeless love, bring on chronic diseases and low fevers. 4. Till the passion which has caused the disease is calmed, medicine is applied in vain. 5. The Love of God, as it is the sovereign remedy of all miseries, so in particular it effectually prevents all bodily disorders the passions introduce, by keeping the passions themselves within due bounds, and by the unspeakable joy and perfect calm, serenity and tranquillity it gives the mind, it becomes the most powerful of all means of health and long life."

PSYCHOSOMATIC PROBLEMS

In the past decade, the medical profession's attention has been focused again on the problems of a psychosomatic nature, and again we see that in the early seventeen hundreds, the influence of this factor was prevalent and recognizable just as it is today. The busy practitioner has little time to devote to the history of medicine. Some of the medical schools are attempting to incorporate the historical aspects of the profession into modern teaching. This is especially pertinent; for, as we have made great scientific advances, these scientific advances have to some degree

(Continued on Page 291)

De Rebus Medicis Et Politicis

BY ROBERT B. HOMAN, JR., M. D., EL PASO, TEXAS
MEMBER OF THE HOUSE OF DELEGATES OF THE AMERICAN MEDICAL ASSOCIATION

MR. EWING'S TRIBULATIONS

Mr. Oscar Ewing, the New York lawyer, who is Federal Security Administrator, has been having a rather rough ride recently. Mr. Ewing is the administration's leading tub-thumper for compulsory health insurance. He would like to be a secretary with cabinet rank and was feeling around for the Democratic nomination for Governor of New York until he recently gracefully retired from this field. It must be remembered that he has never been elected to public office — he is merely an appointed officer of that fourth branch of government called Bureaucracy.

Mr. Ewing's troubles began several weeks ago when a house sub-committee of three Democrats and two Republicans unanimously reported that the Federal Security Agency is mismanaged, its staff engaged in propaganda, and the agency inefficient, wasteful, and overstaffed. The report stated further that many of the agency's top officials know of these "shortcomings and discrepencies", but "are wary of making decisions that would reduce employment or incur the ill-will of a colleague or of a particular group with whom they disagree".

OPPORTUNE TIME

Fortunately, for America, this report came at a very opportune time — just as the House began consideration of Re-organization Plan No. 27. This plan would have converted the Federal Security Agency into a Department of Health, Education, and Security, with our Mr. Ewing as the secretary of the department, with cabinet rank. Plan No. 27 was quickly emasculated by the House of Representatives — the first veto of a re-organization plan by the House. This is the second time that Mr. Ewing's ambitions to be a big secretary have been thwarted.

Our hero's troubles had just begun. The House Lobbying Committee recently had Mr. Ewing on the carpet for a three hour session and then broke off the hearing after ordering its staff to bring in more information. Specifically, the data the Committee wants is a complete statement on cost to the government (the taxpayer) of any speeches by Mr. Ewing or others in the agency designed to promote national health insurance. This is to include the cost of preparing speeches and travel expenses. They would also like to know who paid for the 1948 National Health Assembly in Washington.

ADMITS ADVICE

Mr. Ewing admitted advising a group of organizations on strategy to win Senators over to Re-organization Plan No. 27. Another meeting of interest was a luncheon given in the F. S. A. Building for representatives of veteran's organizations. Mr. Ewing was the host, and said that he paid for the food, but F. S. A. messengers were used as waiters. At this meeting he urged support of Plan No. 27 and discussed the United Medical Administration bill. Mr. Ewing also testified that he had given thirty-three speeches this year, "but if there is a word of politics in them, I pay my own way". He explained that F. S. A. has "lots of information to disseminate" and hires **sixty-four public relations people** but that they don't spend much time **writing speeches!"** He replied to criticism of his European trip (to study socialized medicine abroad) by saying — "Why, without question it was official business". He said **he was doing everything he considered proper to push the Truman compulsory health insurance plan.** Of his speeches in its behalf, he said: "It is my conception that when we keep within the realm of public discussion it is perfectly proper". In this connection a General Accounting Office spokesman is quoted as saying that officials of **Mr. Ewing's rank** may engage in politics, although these activities would be illegal for Mr. Ewing's employees.

Truly the old adage that election or appointment of a man to public office does not endow him with **wisdom** but simply endows him with **power** is applicable to Mr. Ewing.

Aminopterin in the Treatment of Acute Leukemia

This drug is highly unsatisfactory as a therapeutic agent. Although in some cases it has favorably influenced the course of leukemia and has a more definite effect than any other procedure used, its action is unpredictable and unsafe. A beneficial effect has been observed only in a minority of cases and then temporarily, resulting, at best, in nothing more than transient remission. It may cause serious toxic reactions. Therefore, since use of aminopterin is still in experimental stages, it should be restricted to clinics and hospitals where patients can be observed carefully and corrective measures employed promptly.

Clough, P.: Aminopterin in Treatment of Acute Leukemia: Editorial, Ann. Int. Med. *31*:1129 (Dec.) 1949.

Cancer of the Lip

Patients with early and localized cancer of the lip have a good chance of permanent cure by irradiation. In a series of 259 cases, 83% of the patients, whose physical condition was such that they could tolerate a routine plan of radiation, were cured permanently. Surgery may be necessary for resistant, recurrent or late radiation ulcers.

Widman, B.: Cancer of the Lip. Am. J. Roentgenol. *63*:13 (Jan.) 1950.

Civilian Protection in Wartime

A new treaty for the wartime protection of civilians was adopted at a diplomatic conference in Geneva last summer attended by delegates from 59 countries. It is subject to ratification by the nations concerned.

FUNCTIONAL UTERINE BLEEDING*

By R. W. Te Linde

The John Hopkins University,

Inasmuch as there is considerable confusion in the literature regarding the exact definition of functional uterine bleeding, it is probably best that we define the term as used in this paper. Our conception of functional bleeding is bleeding from a uterus which is not explained on the basis of a gross pathological lesion in that organ. That is slightly different from saying that it is bleeding from a uterus which does not harbor neoplasm or infection. For example, incidental fibroids frequently occur in a uterus which is bleeding functionally when they have nothing to do with the symptom. Our definition is somewhat broader than that of Hamblen, who excludes such cases as can be explained on the basis of obvious endocrine disorder. By his definition, bleeding dependent upon abnormal thyroid function would be excluded but would be included within the scope of our definition. We would also include cases of uterine bleeding dependent upon organic pathology in the adnexa, such as adnexitis or feminizing ovarian neoplasms. In such cases the abnormal ovarian function may be responsible for endometrial dysfunction, resulting in bleeding. We would also include the rare cases in which the normal uterus bleeds as a result of a blood dyscrasia, such as thrombocytopenic purpura and Goucher's disease.

FUNCTIONAL BLEEDING

Functional uterine bleeding may be of any clinical type: menorrhagia, metrorrhagia or polymenorrhea. It may vary from profuse hemorrhage to slight spotting. It is quite impossible to correlate the type and profuseness of the bleeding with the endometrial pattern. On the whole, however, we believe that when the functional bleeding is associated with secretory endometrium it is more apt to be rhythmic in its occurrence than when the endometrium is of the purely proliferative type.

The endometrial picture which is most commonly associated with functional bleeding is of the Swiss-cheese hyperplasia pattern. Howard Jones found this type of endometrium to be present in 63 per cent of the curettings from functional bleeders in our laboratory. In 20 per cent of the cases the endometrium was of the estrogen proliferative type but not hyperplastic, but in the remaining 17 per cent there was secretory endometrium. Statistics from other laboratories differ somewhat from these figures but, in general, all investigators are agreed that the endometrial hyperplasia pattern represents the largest group.

MICROSCOPIC PICTURE

The microscopic picture of endometrial hyperplasia has been so widely publicized that most of you are familiar with it. The great variation in size and shape of the non-secretory glands, the lumina of which resemble the holes in Swiss-cheese, is the most characteristic feature. The stroma may also be hyperplastic and composed of densely packed cells. However, there is much variation in the degree of hyperplasia of both the glands and the stroma. Because there are no strict criteria regarding the degree of glandular and stromal change, there is often a personal equation on the part of the pathologist which enters into his interpretation of the picture. This, I believe, accounts for the considerable variation in the percentage of hyperplasia recorded by different pathologists. However, this difference in the interpretation is of more academic than practical significance because the hyperplastic and other non-secretory types all indicate a lack of progesterone; and with both types of endometrium, progesterone therapy is indicated.

ENDOMETRIAL PATTERN

Of special interest and importance is the endometrial pattern in which there is extreme proliferation of the glandular elements at the expense of the stroma. In such cases there may be considerable difference of opinion among the most experienced gynecological pathologists as to whether one is dealing with benign hyperplasia or low grade endometrial carcinoma. Fortunately, this extremely proliferative gland pattern is rare in the large group of cases of functional bleeding occurring before the menopause. However, one occasionally encounters endometrial hyperplasia after the menopause, particularly in the years immediately following the menopause and it is in this group in which marked glandular proliferation may closely resemble adenoma malignum. From a practical point of view the problem of these confusing cases is not as difficult as might appear at first. If the endometrium is malignant it is of very low grade and the loss of a few months time is not serious. If the patient is kept under observation and there is no recurrence of the bleeding, one may rest assured that he is dealing with benign hyperplasia; but if the bleeding recurs the patient should again be curetted and usually eventually the endometrial picture becomes clearly benign or malignant. We have re-curetted the same woman three or four times over a period of as much as two years before arriving at a final correct conclusion.

QUESTION RAISED

The question of the relation of the usual premenopausal hyperplasia to malignancy is frequently brought up. The woman with functional bleeding in her forties often asks whether her condition predisposes to malignancy. Experience with a large number of such cases has taught us that there is definitely no relation. In several cases reported in the literature in which endometrial cancer has followed previously diagnosed endometrial hyperplasia, a review of the earlier sections has usually revealed that malignancy was overlooked on examining the original slide.

There is a form of hyperplasia which is occasionally seen today which is man-made. I refer to the endometrial changes that occasionally result from estrogen therapy. Most often the estrogen responsible is stilbestrol which seems to have stronger growth promoting properties than the natural estrogens. It should not be inferred that all women who bleed from estrogen administration show hyperplastic endometrium. In our experience the percentage is low but we have seen extremely active proliferative endometrium occurring after estrogen therapy.

ESTROGEN EXCESS

The occurrence of hyperplastic endometrium in association with granulosal cell and theca cell tumors of the ovary is now well recognized and the endometrial picture is readily explained on the basis of an excess of estrogen. From a practical point of view, one should remember that when dealing with functional bleeding in the young and even in post-menopausal women there exists the possibility of a functioning ovarian tumor, and the ovaries should be carefully palpated.

* Given at International Post-Graduate Assembly, San Antonio, Texas, January, 1949.

From a therapeutic point of view it is first of all important to determine the type of endometrium from which the bleeding originates. The necessity of this will be apparent when the results of endocrine therapy are considered. In addition there also exists the possibility that the apparent functional bleeding arises from an endometrial polyp. It is our belief that many women who are classified as functional bleeders are actually bleeding from a polyp which becomes minced up by curettage and is hence unrecognized by the operator or pathologist.

CURETTAGE THERAPY

At the onset it should be emphasized that in the majority of cases of functional bleeding, curettage is all the therapy necessary. In addition to establishing a diagnosis, in many cases the bleeding ceases after this simple procedure or recurs too slightly to necessitate further treatment. In a recent study made in our outpatient clinic by Dr. Georgeanna Seegar Jones only 17 per cent of the cases of functional bleeding were severe enough or in the proper age group to require endocrine treatment. In the remaining 83 per cent curettage alone was necessary or in the older age group major surgery or irradiation was thought to be the treatment of choice. Often in the women past forty in whom there is a recurrence of troublesome bleeding after a curettage, associated lesions resulting from childbirth throw the choice in favor of surgery rather than endocrine therapy or irradiation.

SEVERE BLEEDERS

The women whom we have treated endocrinologically have been the more severe bleeders among the young women who failed to respond to curettage. It is this group in whom conservative treatment is most essential; and, fortunately, it is this group who respond to hormonal therapy most readily. The endocrine treatment which we have used has been cyclic progesterone therapy, and its success has been confined to those cases in which the endometrium was of the hyperplastic or non-hyperplastic non-secretory type. As previously stated we believe these cases to be closely related etiologically. Our belief is born out by the fact that repeated curettage of otherwise untreated cases will often show that there is considerable interchange in the histological pattern of the hyperplastic and non-hyperplastic group.

HYPERPLASTIC ENDOMETRIUM

The finding of hyperplastic endometrium at one curettage and non-hyperplastic endometrium at a successive one would indicate their relationship. The absence of secretory activity of the glands appears to be the constant factor indicating a constant lack of progesterone activity. Only in the few cases with a trophic endometrium was stilbestrol (3 to 5 mg.) given daily for two weeks preceeding the progesterone therapy. If the bleeding is cyclical, progesterone is given in 10 mg. doses three times daily for seven days before the expected onset of bleeding. If the bleeding is quite irregular or continuous the therapy is begun at any time and continued for seven days. Twenty-eight days after the beginning of the first week's treatment another seven days cycle is repeated and again the following month.

TWO FACTORS

If the treatment is successful, bleeding usually begins within five days after the cessation of the medication and usually continues for not more than seven days. In using progesterone therapy two things should be kept in mind; first, it is not a hemostatic drug and bleeding does not cease until approximately a week after progesterone withdrawal; second, it probably does not cure the underlying condition or conditions. It is possible that the therapy over three months simply represents a chemical curettage on three successive months. Hence, recurrences are not uncommon, and in our most recent series 57 per cent of the cases successfully treated had recurrences within six months to two years. However, in a recent study of 74 cases of severe bleeding in young women with non-secretory endometrium, Dr. Georgeanna Seegar Jones and I found that 72 responded satisfactorily to progesterone therapy. The two that failed to respond were complicated by an ovarian neoplasm in one instance and chronic salpingitis in the other. When there is recurrence, re-treatment usually stops the bleeding again. Eighteen per cent of the treated cases became pregnant while under observation, indicating the value of conservatism.

ETIOLOGICAL FACTORS

Because we do not consider progesterone a specific cure for functional bleeding all patients should be investigated to determine, if possible, the etiological factors upsetting ovarian function. Of the 104 cases in Dr. Jones and my series, 33 had lowered thyroid function with a metabolic rate of —5 or below and/or blood cholesterol above 250 mg, per cent. Such patients were placed on thyroid therapy of 1½ to 2 grams a day, and most of them appeared to respond to therapy. When obesity was present with a lowered metabolic rate the patients were placed on special reducing diets. If obesity without evidence of thyroid deficiency was present they were placed on reducing diets without thyroid extract.

Occasionally functional bleeding with hyperthyroidism is encountered. In our recent series there were two such cases which were successfully treated with bed rest and Lugol's solution.

FORTUNATELY RARE

True functional bleeding associated with secretory endometrium is fortunately much rarer than the types above described. In our recent series of 104 cases there were but four which could be considered truly functional in type. They uniformly failed to respond to progesterone therapy. Our experience would indicate that although progesterone therapy is quite successful when treating bleeding associated with non-secretory endometrium, it is unsatisfactory therapy for those patients with secretory endometrium.

Finally, it is worthy of mention that there were two cases in our series of 104 in which the bleeding was due to thrombo-cytopenic purpura which stresses the importance of keeping the medical aspects of the symptom in mind.

There is Nothing New...

(Continued From Page 288)

been made at the expense of what might be rightfully termed the art of medicine.

We are all guilty of allowing laboratory examination, and such specialistic procedures as roentgenograms, and electrocardiograms to replace what we can see, feel, and hear, and by this we are losing the personal contacts, and with this personal contact, to some degree, the respect and admiration of the general public. While science may be cold and indifferent, it must be realized that the physician, while scientifically trained, must never lose his ability to see the patient in the light of a fellow-man who is suffering, not only from physical ailment, but with accompanying mental anguish as well. It is fitting and proper that the physician remember that he is this man's friend in his time of need, and often one kind word will be of greater therapeutic aid, than our modern accepted procedures.

1. "The Family Adviser", Ashbury, Philadelphia, 1793.
2. "Primitive Physic: or, An Easy and Natural Method of Curing Most Diseases." by John Wesley, M. A., New York, 1747.

THE USE OF FROZEN BONE BANK BONE IN ORTHOPAEDIC SURGERY*

By Morton H. Leonard, M. D. Louis W. Breck, M. D., and W. Compere Basom, M. D.
El Paso

Bone grafts are essential to many orthopaedic procedures. Autogenous and homogenous bone have been shown to be of almost equal efficacy in their osteogenetic properties. The use of delayed homogenous grafts or bone-bank bone by removing the disadvantages to the donor has given to the orthopaedic surgeon large amounts of osseous material heretofore unavailable. The establishment and maintenance of a bone bank, although requiring an exacting technique, has been found to be simple, safe and effective.

Early in the history of bone grafting heterogenous materials such as beef bone and cow horn were tried. These substances were found to act only as internal splints, did not stimulate bone production and in many instances invited foreign body reaction in the osseous as well as soft structures. Up to the advent of the delayed homogenous bone graft, that is bone-bank bone, autogenous bone was (and probably still is) the most commonly employed type of graft. It has disadvantages: First, a normal part is jeopardized; second, removal of the graft adds to the time and magnitude of the operative procedure; third, the amount of bone is limited. The use of immediate homogenous bone grafts has no drawbacks to the patient, but unlike the donation of blood results in permanent disability to the donor. Bone-bank bone gives a source of osseous material which acts clinically according to many reports, and to our experience, as well as does autogenous bone, whose amount is relatively unlimited.

BONE BANK

In 1945 a bone bank was established at the New York Orthopaedic Hospital, and in 1947 they reported results comparable to those which would have occurred had autogenous bone been used[1]. Since that time many reports of large series of cases have appeared in the literature in which the osteogenetic response has been similar to that expected from autogenous bone. The incidence of post-operative infection has not been significantly higher than when autogenous bone has been used[2,3,4].

A bone bank was established by the authors in El Paso in 1949. Excess bone removed during various orthopaedic procedures, resected ribs removed from clean cases, and bone from clean amputations have been stored in a commercial deepfreeze establishment at minus 18 degrees centigrade. The material is removed in the operating room and transferred immediately to a sterile bottle. Culture is made at the time the bone is placed into the bottle. The patient's serology is checked and his history investigated to rule out jaundice. These bottles are coded, dated; and, if the culture, serology and history for jaundice are negative, the material is removed as needed from the locker about one hour before use. The bone, when thawed out, has the consistency of fresh bone.

BONE FROM BANK

Bone from our bank has been used alone as well as to supplement autogenous bone. In our experience the clinical response has been similar to that which would have occurred had autogenous bone alone been used. No post-operative infections or foreign body reaction have been seen.

The use of the bone bank is illustrated in the following two cases.

1. **S. B., age 2.** This child was first seen June 3, 1948 with a two month's history of reluctance in walking and sitting, night cries, night sweats, poor appetite and weight loss. Physical examination revealed a very stiff spine. X-rays, antero-posterior and lateral of the lumbo-sacral spine showed a destructive lesion of the lumbo-sacral joint. The appearance of the x-ray was that of tuberculosis.

CHILD HOSPITALIZED

The child was hospitalized and kept recumbent by the use of a bilateral hip spica until it was believed that the tuberculosis was inactive as indicated by a normal sedimentation rate for many months and by the x-ray appearance.

On January 12, 1949 a spinal fusion from the third lumbar vertebra to the sacrum using strips of bank bone rib was done. The child was given dihydrostreptomycin 0.5 grams daily for six weeks. X-rays made on April 14, 1950 showed consolidation of the bone graft. The flexion films showed motion between L3 and 4 but fusion from L4 to the sacrum. On this date the child was permitted to become ambulatory and he was discharged from the hospital on May 16, 1950.

2. **H. L., age 65.** This man came under our care on February 8, 1950. He had incurred a fracture of the left forearm on March 12, 1949. His left radius had been treated with an open reduction and plating. On clinical and x-ray examination a non-union of the radius and hypertrophic changes at the distal radio-ulnar joint were noted.

On February 9, 1950 an open reduction and bone graft using the resected distal end of the ulna and bone bank bone was carried out. X-rays made on May 16th showed solid union of the fracture of the radius.

SUMMARY

In practice homogenous and autogenous bone have been found to have about the same clinical efficacy. Bone banks have been in use since 1945 and are a success. A bone bank has been established in El Paso and has been successfully used by the authors during the last 18 months. Although our series of cases is not large enough to have statistical value, we have not noted any delay in union or an increase in incidence of post-operative infection subsequent to the use of delayed homogenous grafts which have been preserved in a deep freeze at minus 18 degrees centigrade.

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4. Weaver, James B.: Experience in the Use of Homogenous (Bone Bank) Bone. Journal of Bone and Joint Surgery, 31-A, 791-799, October, 1949.

* This paper was presented August 1, 1950 at a Staff Meeting in Hotel Dieu, El Paso.

A NEW STATEMENT ON HOSPITALS AND THE PRACTICE OF MEDICINE

It is essential that all physicians, especially those interested in the hospital practice of radiology, pathology, and anesthesiology be familiar with the attitude of the American Hospital Association as regards the practice of medicine. It must be realized that the financial burdens placed on the hospitals is great, and that they must remain solid. At the same time the physician must maintain his position as a practitioner of the healing arts. The resolution of the A. H. A. allows their trustees to dictate that services rendered by physicians in the various departments, such as for example, the radiological and pathological departments, be included in prepayment hospital service plans 'subscribers' certificates. It is also noted that there is a questionable interpretation of the principles of medical ethics of the American Medical Association. These interpretations have in the past been rendered by the judicial council of the A. M. A. It is evident that this procedure is considered obsolete by the A. H. A. The monthly news letter of the American College of Radiology, May, 1950 closes its comment on this particular statement regarding hospitals and the practice of medicine in the following manner:

"If any physician doubted that now is the time that the American Medical Association must call a halt to the invasion of medical practice by the hospitals, this statement should resolve those doubts." — THE EDITORS.

After revision by a reference committee of the House of Delegates of the American Medical Association and adoption by that body, the report of the Hess Committee on Hospitals and the Practice of Medicine was published in the *Journal of the American Medical Association* for July 2, 1949. It was the opinion of that committee that "most controversies between hospital management and the professional staff, either individually or collectively, should be settled on local levels in accordance with clearly established national policy."

After consideration of the newly revised Principles of Medical Ethics of the American Medical Association, the Hess committee concluded that the over-all policy of the American Medical Association shall be "that it is illegal with the exceptions noted (but not specified), and unethical for any lay corporation to practice medicine and to furnish medical services for a professional fee which shall be so divided as to produce profit for a lay employer, either individual or institutional, including hospitals and medical schools."

RECOMMENDATIONS

"To implement the settlement of controversies between management and the professional staff, the house of delegates recommends to each of its constituent state and territorial societies that it appoint a committee on hospital and professional relations. This committee shall be available to receive complaints from any physician, hospital, medical organization, or any interested person or group with reference to professional or economic relations existing between doctors of medicine and hospitals or medical schools. Upon receipt of such complaint by such committee, the matter shall be investigated and acted upon in such manner as that committee may decide and in accordance with regular and existing modes of procedure."

"If a hospital or other lay group is found guilty and will not cooperate within ethical and legal limits, it is recommended that the Judicial Council of the American Medical Association shall order the withdrawal of the Association's approval of that institution."

HESS REPORT RESCINDED

In November 1949 the American Medical Association's board of trustees asked that the Hess report be rescinded because some parts of it were considered to be illegal and contrary to previous court decisions relating to the responsibilities and prerogatives of hospital administration and management. In taking this action, the board concluded that the report implied authority and responsibility for which the American Medical Association had no constitutional provision. Also the American Medical Association believed that there should be no attempt to unreasonably restrain, coerce or constrain hospitals or physicians in the establishment of mutually satisfactory agreements between individual hospitals and physicians.

REPORT CONSIDERED

The house of delegates of the American Medical Association reconsidered the report during its session in December 1949 and referred the entire matter back to the Hess committee for further study and with the recommendation that the American Hospital Association be approached with a view to arriving at some satisfactory solution to this problem.

On January 30, 1950, the American Hospital Association was requested by the secretary of the Hess committee to express its opinion in regard to the controversies implied in the Hess report and to submit for the consideration of that committee recommendations that would solve the problems between hospital management and the medical profession.

In making this request the committee advised that most of the questions that had been raised have come from three departments, but other departments in the hospital eventually may be influenced by any decisions that are made and any policies that are approved by the house of delegates.

INTERPRETATION

The Board of Trustees of the American Hospital Association replied that the report of the Committee on Hospitals and the Practice of Medicine interpreted hospital-physician relationships in a manner that was of serious concern to hospitals, physicians and the public. In the opinion of the American Hospital Association, equitable relationships were best accomplished by negotiation on the part of those directly involved in the individual hospital. The Association believes that the 1939 Principles of Relationship between Hospitals and Radiologists, Pathologists and Anesthetists, affirmed by the American Medical Association's house of delegates in 1944 and reaffirmed by the American Hospital Association in 1946 and 1948, adequately safeguard the interests of the public, the hospitals and the physicians through the definition of relationships conducive to efficient and economical services to the patients. The Association believes also that radiologic, pathologic, anesthesiologic and physiatric departments are component parts of hospital organization, the unity of which must be maintained as an essential administrative principle for the benefit of the patient without infringement on professional rights or dignity. Finally, the Association feels that the determination of methods and amounts of compensation of medical staffs of radiologic, pathologic, anesthesiologic and physiatric departments of hospitals, as well as for rate setting and regulations governing nonmedical activities in those departments, are the mutual

responsibility of the hospital and physicians concerned, subject to final approval by the hospital governing board.

COMPLETE TEXT

The complete text of the resolution on hospital-physician relationships in the provision of radiologic, pathologic, anesthesiologic and physiatric services, as adopted by the American Hospital Association's Board of Trustees, is published in these pages.

This resolution was drafted at a special joint meeting of the Council on Prepayment Plans and Hospital Reimbursement and the Council on Professional Practice, at the request of the Board of Trustees. The two councils admonished that at the same time it was particularly important that controversy over financial and other relationships between hospitals and physician groups be avoided and that there be no attempt to restrain, coerce or constrain hospitals or physicians in the establishment of mutually satisfactory agreements between individual hospitals and physicians; nor is it considered advisable or feasible to attempt to control such relationships at the national level.

THE 1939 RESOLUTION

The 1939 Principles of Relationship between Hospitals and Radiologists, Anesthetists and Pathologists essentially provides that no one type of organization for radiologists, pathologists and anesthetists in the hospital is applicable because of wide variation in local circumstances. It is an essential administrative principle that the unity of the hospital and its component departments, including departments of radiology, pathology and anesthesia, be preserved without infringement upon the professional rights and dignity of the medical staff. It is axiomatic that satisfactory agreements between hospitals and physicians directing these departments be such as will best meet the local situations. It is recognized that a mutually satisfactory basis of financial arrangement may be salary, commission or privilege rental, private fees, or other arrangement as will most effectively meet the needs of the local public, the individual hospital and physician rendering the particular service, but in no instance should either the hospital or the physician exploit the other or the patient.

STATEMENTS FORMULATED

The following statements were formulated by the two councils as a supplementary guide to hospitals for assistance in determining hospital-physician relationships in radiologic, pathologic, anesthesiologic and physiatric departments:

It is in the public interest that radiologic, pathologic, anesthesiologic and physiatric services be available in the hospital for complete diagnosis and patient care.

Radiology, pathology, anesthesiology and physiatry are services vital to a high quality of patient care and are properly provided to hospital patients in both inpatient and outpatient departments of hospitals as a part of their diagnosis, treatment and care.

Physicians who are responsible for providing services, in departments of radiology, pathology, anesthesiology and physiatry, to hospital patients also assume administrative responsibility for directing the work of hospital personnel and the use of hospital equipment in the departments under their supervision.

EXCLUSIVE PRIVILEGE

Physicians who provide radiologic, pathologic, anesthesiologic and physiatric services ordinarily have the exclusive privilege of rendering such services to all patients in a hospital.

In the provision of service to the public, the granting of exclusive privilege of practice to physicians in departments of radiology, pathology, anesthesiology and physiatry necessitates control of the rates charged for those services in the hospital.

Hospital reimbursement of physicians for patient care rendered in radiologic, pathologic, anesthesiologic and physiatric departments of hospitals which provide the space and the equipment and pay the salaries and operating expenses of the departments, constitutes a practice which has developed over the years and is acceptable to a majority of physicians directing such departments.

Medicine is not practiced by hospitals but is practiced in hospitals by licensed physicians regardless of method of compensation.

MEDICAL ETHICS

The Principles of Medical Ethics of the American Medical Association do not prohibit hospital employment of physicians to provide radiologic, pathologic, anesthesiologic and physiatric services to patients at the request of their attending physicians.

Variations between local hospital situations preclude the establishment of a single method of compensating physicians working in radiologic, pathologic, anesthesiologic and physiatric departments of hospitals as being in the best interest of patient care and applicable to all hospitals.

Net income accruing to a nonprofit hospital from the operation of any department, including specialized medical service departments, should be applied against the total cost of providing hospital services, and therefore the net income of such departments should not be used as the sole basis of determining compensation of staff members in these departments.

PREPAYMENT PLAN

Under usual enabling legislation, a prepayment hospital service plan may properly furnish radiologic, pathologic, anesthesiologic and physiatric services to subscribers as part of its hospital service benefits.

Most subscribers to prepayment hospital service plans request and are entitled to radiologic, pathologic, anesthesiologic and physiatric services as hospital benefits under their subscriber certificates.

Physicians, hospitals and prepayment plans are confronted with the necessity of making available comprehensive coverage, including services rendered in radiologic, pathologic, anesthesiologic and physiatric departments of hospitals, to meet the public demand for complete prepaid hospital care.

Epidermoid Carcinoma of the Anus and Rectum

About 3.6% of the cancers involving the anus and rectum are epidermoid carcinoma. This disease occurs in both young and old adults. The usual symptoms are presence of blood in the stool, pain, and upset of bowel habits. Because these symptoms are associated with many benign conditions, the diagnosis of cancer is often missed. Therefore, when any one of these symptoms appear, proctoscopic examination is imperative. A positive Wassermann does not rule out cancer, as syphilis is often associated with these lesions.

Binkley, G. E.: Epidermoid Carcinoma of the Anus and Rectum, Am. J. Surg. 79:90 (Jan.) 1950.

Power of Attorney

Approximately 1¼ million veterans and dependendents of deceased servicemen or veterans have signed powers of attorney designating the American Red Cross as their representative.

THE COMPLETE TEXT OF THE NEW STATEMENT ON HOSPITALS AND THE PRACTICE OF MEDICINE

This new resolution, concerned with hospital-physician relationships, was approved by the Board of Trustees of the American Hospital Association early in March, 1950.

WHEREAS Hospital-physician relationships in the provision of radiologic, pathologic, anesthesiologic and physiatric services are a concern of the public, the physician and the hospital; and

WHEREAS Radiologic, pathologic, anesthesiologic and physiatric services are essential to the modern diagnosis and treatment of illness; and

WHEREAS It is in the public interest that radiologic, pathologic, anesthesiologic and physiatric services be available in the hospital for complete diagnosis and patient care; and

WHEREAS The American Hospital Association, the American Medical Association and related professional organizations lack constitutional authority to legislate individual hospital-physician relationships; and it is not advisable or feasible that they attempt to control such relationships at the national level; and

WHEREAS It is considered particularly important at this time that controversy over financial and other relationships between hospitals and physician groups be avoided and that there be no attempt to restrain, coerce or constrain hospitals or physicians in the establishment of mutually satisfactory agreements between individual hospitals and physicians; therefore be it

RESOLVED That the Principles of Relationships between Hospitals and Radiologists, Anesthetists and Pathologists, adopted jointly in 1939 by the American Hospital Association; the Radiological Inter-Society Committee officially representing the American College of Radiology; the American Roentgen Ray Society, the Radiological Society of North America, and the American Radium Society; a special committee representing the American Society of Regional Anesthesia, the Association of Anesthetists of United States and Canada, the American Society of Anesthetists, the Eastern Society of Anesthetists, a special committee representing the American Society of Clinical Pathologists; the American Medical Association and the American College of Surgeons; and subsequently reaffirmed by the American Hospital Association in 1946 and 1948, and by the House of Delegates of the American Medical Association in 1944, adequately safeguard the interest of the public, the hospital and the physician through definition of relationships conducive to efficient and economical service to the patient; and be it further

RESOLVED That radiologic, pathologic, anesthesiologic and physiatric departments are component parts of the hospital organization, the unity of which can be maintained as an essential administrative principle for the benefit of the patient without infringement on professional rights or dignity; and be it further

RESOLVED That members of the organized medical staff directing radiologic, pathologic, anesthesiologic and physiatric departments of hospitals provide professional care and function in a manner which is supplementary to that of other physicians on the attending staff; and be it further

RESOLVED That satisfactory relationships between hospitals and physicians in radiologic, pathologic, anesthesiologic and physiatric departments of hospitals are most equitably established by mutual agreement by those directly involved in the individual hospital; and be it further

RESOLVED That the determination of methods and amounts of compensation of medical staffs of radiologic, pathologic, anesthesiologic and physiatric departments of hospitals, as well as for rate setting and regulations governing non-medical activities in those departments, are the mutual responsibility of the hospital and physicians concerned, subject to final approval by the hospital governing board; and be it further

RESOLVED That radiologic, pathologic, anesthesiologic and physiatric services are included properly in a patient-day of hospital care; and be it further

RESOLVED That services rendered by physicians in radiologic, pathologic, anesthesiologic and physiatric departments of hospitals be included in prepayment hospital service plan subscriber certificates.

Reprinted from April 1950 "Hospitals" by courtesy of the American Hospital Association.

THE EMERGENCY CARE, HANDLING, AND TRANSPORTATION OF THE INJURED AND ITS IMPORTANCE IN THE COMMUNITY*

By Carl B. Young, Jr., M. P. H., Lt. First Aid-Rescue,
Harris County Emergency Corps., Inc., Houston, Texas.

THE PRESENT SITUATION

To begin this discussion on adequate emergency provisions for the injured, it is necessary to mention a few facts of which most of us are aware. The progress made in this country in conjunction with almost total mechanization has been accompanied by a proportionate increase in the number of severe and horrible accidents. The fast moving society in which we find ourselves also has its retaliations, primarily to the cardio-vascular system of man.

As a general rule, the majority of accidental injuries occurs in the group under 40 years of age, while the larger percentage of victims afflicted with cardio-vascular diseases resulting in what may be termed an emergency situation, are in the group over 40 years of age. Among the leading causes of death in the United States, which are handled as emergency cases in most instances, are diseases of the heart, cerebral hemorrhage, and accidents. To combat this high mortality rate due to cardio-vascular disease there are educational programs in most communities which strive toward prevention by advising frequent medical examination and explaining the danger signs which mean trouble ahead. Of course, as man's life span increases, these deaths, due to the wearing out of the body cells, are in many cases a very natural thing.

ACCIDENT ELIMINATION

In the field of accidents, the Industrial Safety Divisions of the various plants and industries are carrying on an excellent program. The law enforcement agencies are doing a good job in the control of traffic accidents. The elimination of accidents on the farm and in the home is receiving the continuing support of the accident prevention programs of the National Safety Council and the American Red Cross as well as those of other agencies.

We, as a nation, are aware of the toll of disease and accidents, and are striving to lessen this toll, if possible. Certain steps have been taken, and we go forward with an ever-increasing drive to make our program more effective. Yet, regardless of how good our program of prevention is, and how well we work at it, the fact remains that we are still confronted with cases of sudden illness and injury from accidents and will continue to meet them as long as man exists on earth.

Realizing that we shall continue to have people subject to sudden illness, and many more subject to injury, **what provisions have been made to give these victims adequate emergency care on the scene of the accident, and until they reach the services of a physician or other medical attention?**

FIRST AID SURVEY

This discussion will concern itself with a survey on the First Aid care rendered to, and the practices of emergency transportation of seriously ill and injured patients in those states representing this region. The aim of this discussion is to gain further scrutiny on the important problem of how our injured are being cared for. From a careful observation and extensive survey, there is ample evidence that the emergency care and transportation of the injured in this region is very inadequate. Therefore, the discussion will describe this inadequate care which the injured are now receiving, as well as that care which should be rendered.

To the casual observer, little can be detected which would lead one to believe that his fellow man was not getting the best emergency assistance. To the man having a background of medicine, health, athletics, scouting, or first aid training, an entirely different picture is apparent.

EMERGENCY FIRST AID

Let us start with the arrival of the emergency ambulance. The driver gets out upon arrival at the scene of the accident and, together with his assistant, they remove the stretcher and move over to the victim. The first essential of emergency first aid is now required. This is an examination of the victim to ascertain as near as possible the extent of the illness or injury. Is there hemorrhage which can be controlled? Is the victim breathing? Is the administration of oxygen indicated? Are there fractures or suspected fractures? These things cannot be determined unless an examination of the victim is carried out.

The examination of an injured victim is not difficult, and can be hurriedly yet thoroughly carried out. It is best done by the ambulance driver on one side and the attendant on the other, examining the victim from the head to the feet. Unfortunately, this primary essential of emergency first aid is seldom carried out by ambulance drivers and attendants. The victim would be fortunate indeed if he received even a hurried examination before being placed on the stretcher.

ON THE SPOT

Next, after ascertaining the extent of the victim's injuries, the proper first aid must be rendered **on the spot,** before any movement of the victim is carried out. Naturally, in view of a situation which may result in additional injury to this victim or to his rescuers, removal to safety would come first. Such explosive and hazardous situations are not too frequently encountered.

Arrest of hemorrhage is the first procedure carried out in rendering emergency first aid. There are few cases of external hemorrhage which cannot be arrested by direct pressure, pressure points, or tourniquets as a last resort. Yet, the arrest of hemorrhage is seldom carried out at the accident scene by ambulance drivers and attendants.

First aid measures for the victim who is not breathing are the next essential of emergency first aid. The indicated first aid for such victims is the application of artificial respiration. This must be immediately carried out, **on the spot,** until the victim recovers or is pronounced dead by a physician. This simple first aid procedure, which is carried out by a little knowledge and one's two hands, saves hundreds of victims from an asphyxial death every year. However, there are many occasions when victims are rushed to the hospital by emergency ambulance, with no attempt made to carry out resuscitation measures. These victims never have a chance.

* Prepared for the Sectional Meeting, American College of Surgeons, El Paso, Texas — February 13-14, 1950.

OXYGEN INHALATION

There are those victims which require oxygen inhalation while en route to the hospital, yet it is a life-saving measure constantly neglected. Fire and police department rescue squads conclusively prove the value of oxygen inhalation in a multitude of emergencies where there is respiratory distress. Oxygen inhalation while en route to the hospital is of exceptional value to the cardiac patient. Statistical evidence qualifies this statement.

The immobilization of fractures is the next major consideration. All broken bones which can be located should be immobilized. Any suspected fracture, especially of the neck and back, should be immobilized. For multiple fractures of the body, fractured neck, back, or pelvis, placing of the victim on a broken back board, or "fracture board" is the recommended method of emergency immobilization. Padded splints may best be used in the immobilization of extremity fractures. The fractured femur, however, is best immobilized by the application of fixed traction. To properly apply splints and induce immobilization is a first aid procedure which at times may prove difficult under emergency situations. Generally speaking, an ambulance driver and attendant can easily and quickly carry out immobilization. However, immobilization of fractures is one of the most common emergency measures neglected, yet fractures are a major injury from the start and present the possibility of death, permanent disability, loss of earning power, and dependence on the community.

COMMON EXCUSE

The common excuse always given "that we don't splint because it takes too long and we can be at the hospital in a minimum amount of time" is against all principles of emergency care. First of all, regardless of the proximity of the hospital, any fracture should be immobilized, and extreme care should be used to life the victim onto the stretcher. A few extra minutes at this point will prove valuable later in all phases of medical and hospital care. Frequently, injury to the spinal column is not severe, but improper lifting and failure to immobilize the victim on a splint board may cause trauma, resulting in permanent paralysis. Another example is the instance of the fractured pelvis, where mishandling may result in injury to the bladder. By skillful immobilization of fractures on the accident scene, the victim will be in a much more favorable condition when he arrives at the hospital for medical treatment. As an example, the victim sustaining a fractured femur, if properly cared for on the accident scene will, upon arrival at the hospital be in condition to receive more immediate care of his injury than the unfortunate individual admitted with severe hemorrhage and with the fractured femur doubled up under him, or hanging twisted over the side of the ambulance stretcher.

TRANSPORTATION TO HOSPITAL

The manner in which an injured person is lifted makes a great difference. The common practice of the ambulance driver and his assistant is to heave and strain, lifting the victim like a limp rag, without due regard for the victim's injuries. At this point many minor injuries are aggravated and become very severe and quite unnecessary. The wise ambulance driver, by using the help of bystanders, placing from three to five on each side and directing the lifting, can roll or Slide the stretcher in under the victim. In this manner, the entire body has been lifted in unison and carefully placed on the stretcher. When the usually limited number of hospital beds, as well as nurses and physicians are concerned, this careful handling of a victim is a very important matter.

Speeding to the hospital with an injured victim is generally contra-indicated. There are few emergencies which call for speed to the hospital. Transportation which is accompanied by swerving, fast turning, sudden changes in speed and severe jolting only increases the pain, the injuries, and the degree of shock. Another important factor is the fright and anxiety which go with the wild race to the hospital, especially among those victims already badly injured. This is a major factor when transporting a victim suffering from cerebral hemorrhage, or one having an acute heart attack. A screaming siren and a wild ambulance ride increase the victim's anxiety. Both psychologically and physiologically this improper care is not conducive to good life-saving practice. A check over the daily newspaper almost invariably points out this fact.

SECOND DANGER

Speeding has a second major danger, which is the possibility of crashing, injuring or killing those people who may fail to clear the street. A speed of twenty to thirty miles per hour is adequate for almost any victim having an injury, be it major or minor. From the standpoint of public safety, it is certainly much safer.

The prime purpose for educating as many of the general public as possible in emergency first aid, is that they may bridge the gap between the time of the accident and the arrival of the ambulance or physician. Speed has its proper place, and it is here that speed is essential. The speed with which aid is given in cases of hemorrhage, arrest of respiration, and internal poisoning, is life saving when action is taken promptly by the trained man on the street.

It is a misconception of the general public that the faster the injured are transported to the hospital for medical care, the better chance there is for recovery. Unfortunately, many ambulance drivers do not know (or in some cases care) why they should drive at a reduced speed to protect the victim from further jolting or bumping.

COMMON PRACTICE

Of equal importance is the elimination of those actions which a well-trained fellow citizen does not allow to happen to the injured, such as the ministration from over-enthusiastic though obviously untrained persons before an ambulance can be summoned. Yet, it is a common practice in many communities to place an injured victim into a Police Squad car and rush to the hospital.

Another major point in the present quality of emergency ambulance service, which is indeed deplorable, is the loading of the victim into the rear of an ambulance and not observing him while en route to the hospital. Unfortunately this ill practice is commonly seen. About the only time a victim is accompanied in the rear of an ambulance is when such patient is maniacal or extremely hysterical.

From the case histories of those victims cared for by Fire Service Rescue Squads, the importance of constant observation of victims while en route to the hospital is clearly brought out. It is a well known fact that even after successful resuscitation a victim may again cease to breathe before reaching the hospital. Again, a victim may be breathing when loaded, yet suddenly stop breathing somewhere along the road to the hospital. Should such victims be unobserved by qualified attendants they may very easily expire. The unconscious victim demands constant observation.

Trauma, such as gun-shot injuries to the face, jaw, neck, or fractures of the skull etc., make this unfortunate victim susceptible to unnecessary death by strangulation if placed unobserved on a stretcher and forgotten until arrival at the hospital.

ANOTHER EXAMPLE

As another example, the victim with a badly fractured femur may, while unobserved become nauseated and vomit. Often severe shock occurs and efforts to help himself may be impossible — death due to strangulation may be the result. This victim never had a chance to reach medical attention. In most localities where an assitant rides with the ambulance driver, he remains on the front seat after "loading" the victim, instead of riding in the rear with the victim.

There is another serious practice which is contrary, not only to good first aid procedure but inhumanitarian as well. This ill practice is the placing of a second patient on the floor of the ambulance instead of on a safe and suitable stretcher. Observation of ambulances unloading patients often bears out this statement. A careful investigation often shows that some emergency ambulances have stretchers which are welded or otherwise have fixed joints. It is impossible to place a patient on such a stretcher with comfort or safety.

EMERGENCY AMBULANCES

Lack of first aid training for ambulance drivers in any community is a deplorable thing. To hire as an ambulance driver an untrained man without first giving him the advantage of basic first aid training is to disregard completely the welfare of the injured whom he will be handling. Worst still, is the employing of adolescents who desire the position more for the thrilling ride than for the meager salary and long hours required. This practice, however, is common. The training of the driver and attendant is the first important step necessary, if adequate care of the injured is to be expected. Every person delegated with the responsibility of caring for the injured should be trained in the standard and advanced first aid courses of the American Red Cross. This training should be carried out under the leadership of an able and experienced instructor who understands thoroughly emergency first aid.

The size and construction of the emergency ambulances commonly used in this section of the country are themselves subject to sharp criticism. Generally speaking they are small "sedan delivery" type trucks which are too short for many an injured victim. The rear doors often jam the patient's legs as they are banged closed. It is virtually impossible to load a victim into these ambulances after a fixed traction splint has been applied, unless the stretcher is so turned and loaded that the patient's splinted extremity will extend over the front seat. The rear compartment where the patient rides is seldom adequately illuminated. Only in those larger vehicles, such as are commonly used as transfer ambulances, will adequate space, heating and illumination be found. These ambulances are so constructed with a partition between them and the drivers cab that cold drafts of air do not rush over them on the way to the hospital. Also, this prevents to a great extent the anxiety and fright which often accompany the noise of a screaming siren.

Last, but of equal importance, is the equipment carried, such as splints for fractures of the extremities, a fracture board for fracture of the spine or hip, a suitable stretcher for carrying a second patient should this be necessary; dressings for wounds, and oxygen for victims suffering from respiratory depression. This equipment is simple in design, light in weight, takes up little space, and with planned and cumulative training, the amount of time required to gain the knowledge necessary to utilize this equipment is negligible. Such equipment is seldom seen on emergency ambulances. For adequate emergency assistance by ambulance attendants, some such equipment must be carried.

COMMUNITY RESPONSIBILITY

A careful study of the various surveys which have been made throughout the country relative to emergency ambulance service is extremely interesting. It is generally conceded that every community has a moral obligation to give emergency care to the sick and injured within its jurisdiction. This does not mean a hit-and-miss system, but one which is well operated.

When a person is seriously ill or badly injured he wants only the best in medical care. As this victim is generally transported to medical attention by an emergency ambulance it might well be stated that his medical care begins with the arrival of such ambulance. This being the case, the question of how the injured are treated before reaching medical attention presents a serious problem to the medical profession.

It is a fact that the most expert team of physicians in the most elaborately equipped hospital are working at tremendous odds should they receive a patient who has been neglected at the accident scene and during transportation to the hospital. Such things as the arrest of hemorrhage, immobilization of fractures, and the administration of oxygen will bring the physician a patient which he can generally always treat more successfully.

RESCUE SQUADS

That first aid, when properly carried out by well trained and qualified personnel, is a good thing is likewise a known fact. Rescue squads of the fire service prove this daily. Possibly the best explanation for the successful life-saving achievements of these well trained personnel is the fact that their only reward or gain is one of personal satisfaction or simply humanitarianism.

Unfortunately every community does not have the services of a rescue squad. Even in those which do, only special cases generally receive their benefit. The larger percentage of the injured from the street and highway are handled by the emergency ambulance. Should those who operate them be unethical, rough or careless, or not otherwise qualified to handle such cases, proper emergency first aid will not be rendered.

Why then, if first aid is a proven good, is it so neglected? It is not intended in this discussion to side-track the reasons involved. They are: (1) The fact that first aid is sold too cheaply; (2) A lack of community education and awareness to the need of first aid and adequate emergency ambulance service; (3) A lack of interest in the community toward first aid and care of the injured; (4) And last, but by no means least, the influence of local politics.

PRACTICAL SOLUTION

What then is the most practical solution in obtaining an improved emergency ambulance service? This is a most important question, yet one exceedingly difficult to answer. The one point which should be made clear is **"THAT STATE LEGISLATION IS NOT THE ANSWER".**

The answer is one which can be decided only by the local physicians and Medical Society. This is a medical problem, first and last. There will be no improvement until the physicians themselves desire it. The Medical profession, and it alone, can demand and obtain satisfaction from their community government.

How the emergency ambulance service is improved is a **local** responsibility. A good sound city ordinance **sponsored** and **approved** by **local physicians** is often one suitable solution. However, this ordinance must have constant supervision and enforcement as well as a severe penalty clause.

There is no such thing in emergency ambulance service as a "gentlman's agreement". Only the passage of a sound city or local ordinance would assist

materially in improving such service. This helps in ruling out the human element of placing the dollar bill first and human life second — as exists in many private businesses. **POLITICS HAS NO PLACE** in the **CARE OF AN INJURED OR SERIOUSLY ILL MAN.**

MUNICIPAL SERVICE

Municipal emergency ambulance service has no equal — if properly supervised by a member of the local Medical Society. Whenever possible, municipal service should be encouraged. The patient is given every consideration under this type of service. This is likewise important to the physician who will eventually care for him.

Regardless of what local action is ultimately taken, one important feature stands out. Emergency first aid requires community team work, and this team work is absolutely essential. Community team work depends on a good progressive educational program. This educational process may well start in the local fire and police departments.

The police department must cooperate in every way, making the work of the ambulance driver much easier. It is essential that these police officers understand and appreciate the value of good first aid themselves. They should never rush the work at the accident scene, but allow all the time required in caring for and loading the victim. When the accident investigator arrives at the scene of the accident, as he so often does, long in advance of any ambulance, his immediate concern should be for the victim. With no severe hemorrhage and respiration normal he has only to keep the crowd away and the victim lying as is. In some departments the accident investigator actually does the majority of emergency work. The police officer is of great help to the ambulance driver when the victim is lifted to the stretcher. He can secure man-power from the crowd to line four or five on each side of the victim and be assured of careful handling as the stretcher is placed under the victim.

NEXT LINK

The next link in the team work is when the ambulance arrives at the hospital. The staff and personnel working in the receiving ward must likewise appreciate the value of lay first aid. If good splints have been applied, a little praise should be given as encouragement for future good work. If an error has been made, good constructive suggestions should be given. Good bandages and other equipment should not be needlessly destroyed. One of the greatest errors made is to tear off a well applied splint which in all probability could remain until after an X-ray. Unless explained to the astonished ambulance driver, his services will likewise cease to be as they should. How the victim is handled in transfer from ambulance stretcher to emergency room table, is an index to the training and supervision of the receiving room at any hospital. If the nurses and doctors go through these motions in a haphazard way, no better care of the injured can be expected from the ambulance driver who will handle the patient in like manner before arrival at the hospital. Good and proper example must be set at the hospital. To facilitate the work of the ambulance driver, a bandage and splint exchange should be established and maintained in the emergency ward.

BEST SYSTEM

The best system, regardless of how emergency ambulance service is handled, is that system which uses when necessary the emergency service division of the police department, if such exists, or the rescue and first aid company of the fire department. There are many occasions where specially trained personnel with special equipment are needed. In a community where only voluntary life saving crews are available, their services should be utilized and fully supported.

In conclusion, I sincerely hope that the thought provoking statements presented in this talk may be beneficial and may contribute materially in improving the quality of ambulance service in those States representing this Section; such improvement is needed, and only you, the physicians of our communities, can solve this problem.

Penicillin and Aureomycin in Prophylactic Therapy of Rheumatic Fever

Rammelkamp and co-workers[1] have reported on the parenteral administration of crystalline procaine penicillin G to one-half of a group of 1,950 consecutive cases of exudative pharyngitis and tonsillitis, most of which were caused by group A hemolytic streptococci. The young men were given 300,000 units on admission and again in 72 hours, or 300,000 units on admission, another 300,000 units in 48 hours and 600,000 units at 96 hours. These patients were carefully studied for detection of rheumatic fever during the subsequent 4 weeks. A definite diagnosis of acute rheumatic fever was made for 17 patients in the untreated group and 2 patients of the treated group; and a diagnosis of possible acute rheumatic fever was made for 6 patients of the untreated group and 2 patients of the treated group.

Rammelkamp at present is investigating the use of aureomycin. He has stated[2] that in a preliminary group of 80 men given aureomycin therapy for streptococcal pharyngitis, no subsequent attacks of rheumatic fever have developed, although 2 cases might have been anticipated from the incidence of such attacks in other similar groups. The data for this study with aureomycin will be available for report at a later date. It is possible that aureomycin may prove to be a more reliable drug than penicillin for rheumatic fever prophylaxis because it is believed that aureomycin is less apt to promote the development of resistant strains of streptococci.

Cancermobile

Mass screening of "well" individuals for gastric cancer has been initiated in North Carolina; a new Gastric Cancer Detection Mobile, equipped with the only mobile Schmidt-Helm camera for photofluorography is making the rounds of the State's 10 clinics. This new instrument is said to give a 10-times sharper image than the usual fluoroscope; yet it does not require a fluoroscopist, nor does it produce excessive doses of irradiation. The Mobile will stay three months or so at each clinic, make 40-50 examinations per day of persons over 35.

Reliability of photofluorography with the Schmidt camera is yet to be proven definitely. However, the technique is thought to hold real promise, especially in the detection of early, asymptomatic lesions. In one series of persons investigated, 13 with symptomless stomachs were found to have suspicious abnormalities. None of this group would agree to exploratory operation; hence, the asymptomatic stage in these patients is being studied intensively. Frequent re-examinations show the lesions to be slowly enlarging; the rate of growth is so slow that the asymptomatic stage is now thought to be close to three years in length — much more than formerly supposed.

1. Denny, F. W.; Wannamaker, L. W.; Brink, W. R.; Rammelkamp, C. H., and Custer, E. A.: An Effective Method for the prevention of Rheumatic Fever After the Development of a Streptococcal Infection.J. Lab. & Clin. Med. 34:1596 (Nov.) 1949.

2. Rammelkamp, C. H.: Personal Communication.

Beaumont Hospital Gives Dinner for El Paso County Society

The annual dinner and professional meeting, given by the Commanding Officer of William Beaumont General Hospital and his staff for the El Paso County Medical Society and all medical officers was held with an attendance of 120.

Dr. Perry C. Talkington, noted psychiatrist from Dallas, spoke on "Some Problems in Psychosomatic Medicine." Doctor Talkington is Senior Consultant for the Fourth Army Area, and is consultant in Psychiatry to the Surgeon General of the Army. During the war years, he served as psychiatrist for Fort Sam Station Hospital (now Brooke); as Consultant in Psychiatry for Patton's Third Army; and as consultant in Psychiatry for the Eighth Service Command.

In opening the meeting, Col. James E. Yarbrough expressed his appreciation for the extremely cordial relations and whole-hearted cooperation which have existed between WBGH and the El Paso doctors.

Col. Clifford A. Best, Chief of the Professional Services, introduced Doctor Talkington, with whom he had worked in the Normandy invasion.

In his talk, Doctor Talkington emphasized the necessity for the physician always to consider both the emotional and physical aspects of the condition of the patient, as the two cannot be separated. "It is not considered that emotional factors produce organic diseases, but they frequently serve as the contributing trigger mechanism to precipitate an acute condition," he said.

Tumor of the Carotid Body

These tumors may occur at any age. Tumors of the carotid body usually are unilateral and appear as a grayish-brown, encapsulated, lobulated mass. A painless lump protruding from under the anterior margin of the sternocleido-mastoid muscle is the most common symptom. Immediate surgery is recommended.

Corbett, A. J., and McClintock, J. C.: Tumor of the Carotid Body Associated with Nodular Goiter, Arch. Surg. 60:81 (Jan.) 1950.

Southwestern MEDICINE

Journal of
SOUTHWESTERN MEDICAL ASSOCIATION
and EL PASO COUNTY MEDICAL SOCIETY

Vol. XXXI SEPTEMBER, 1950 Number 9

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A SIMPLE HEAD-HOLDING DEVICE FOR THE "HOPELESS" CEREBRAL PALSY PATIENT

By Herbert E. Hipps, M. D., F. A. C. S., Waco, Texas

The "hopeless" Cerebral Palsy patient is one who cannot hold his head erect, sit alone, use his hands, or stand and walk.

Many of these patients can be rehabilitated to a creditable degree if properly treated.

The first thing to teach them is head balance. Such a child as this cannot balance his head because:

1. His neck muscles are weak.
2. He has no control over them.

He needs, therefore, a head support which permits movement of the head while supporting it.

The simple device here described, efficiently and effectively does just that. It costs very little and can be made by almost anyone.

It is made of a piece of stockinette or other semi-elastic cloth than can be drawn down snugly over the child's head. A string runs upward from this cap to an overhead bar. The string is just tight enough to hold the head balanced in a vertical position.

The baby's head must be shaved or the hair must be clipped close, then liquid adhesive is spread over the scalp and the cloth cap is pulled well down over the head.

This cap usually will remain on the head for four or five days before it is necessary to replace it.

The child's head may be supported in this way till he gains strength in and control of his neck muscles. Little by little with the passage of time, the support may be left off, as he learns to balance and control movements of his head.



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Bauer, R., and Erf, L.: The Clinical Effect of Nitrogen Mustard on Neoplastic Disease, Am. J. M. Sc. *219*:16 (Jan.) 1950.

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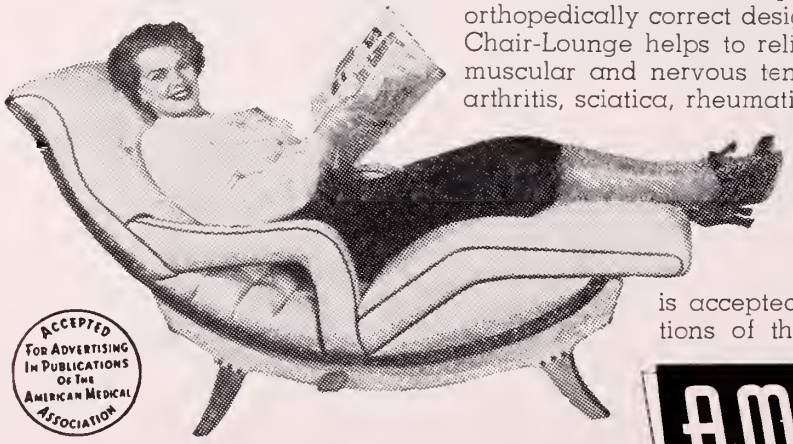
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Bibliography: 1. Mayer, L. L.: Arch. Ophth. *39*:232, 1948. 2. Kuhn, H. S.: Tr. Am. Acad. Ophth. (May-June) 1946, p. 210. 3. Wilkinson, O., in discussion of Mayer, L. L.: Arch. Ophth. *39*:232, 1948.

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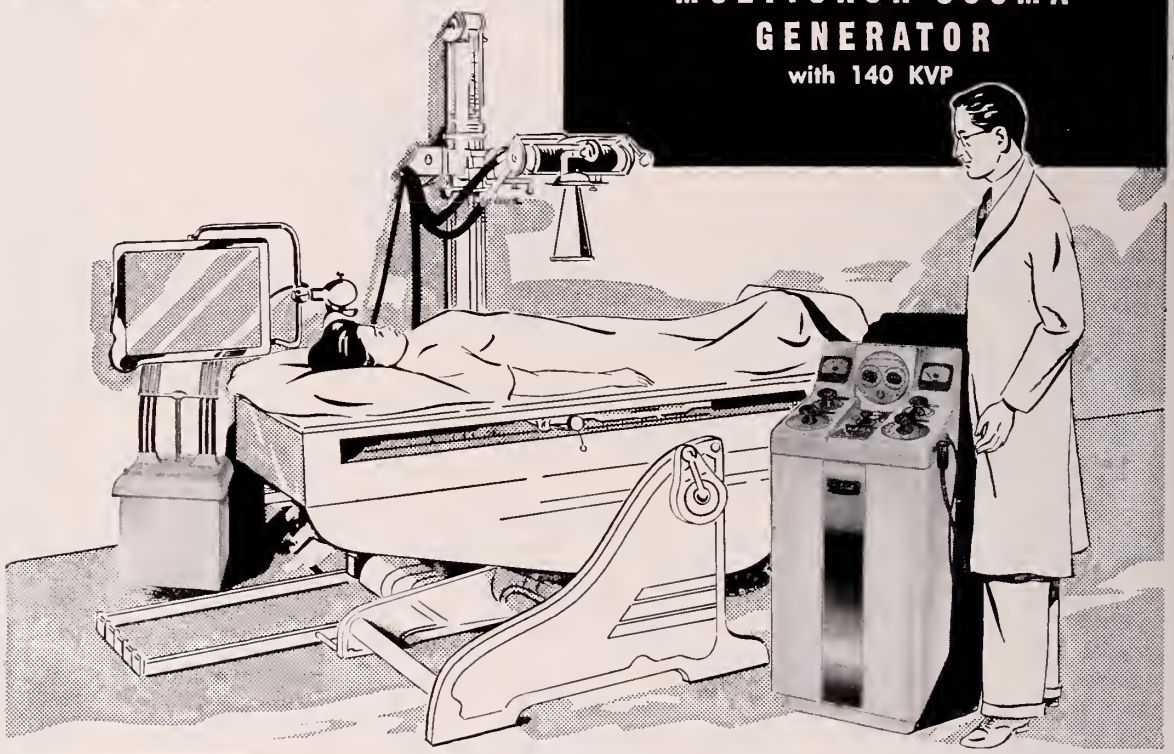
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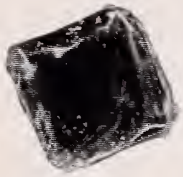
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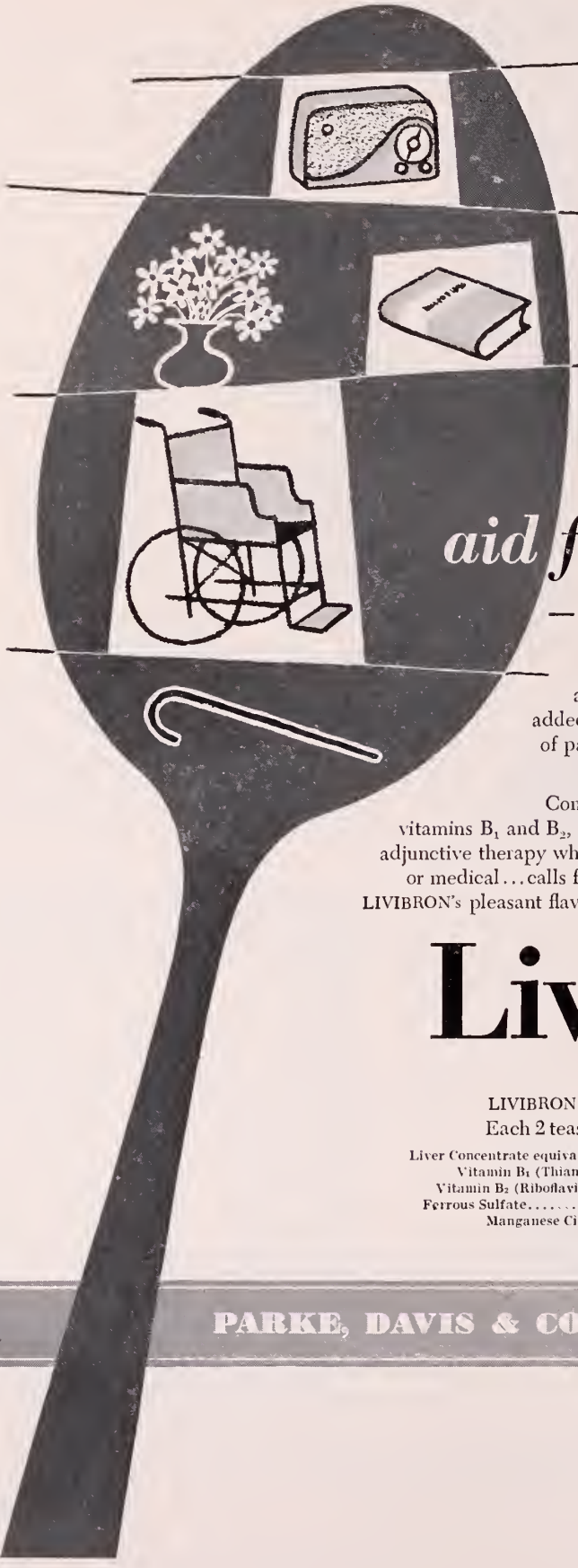
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Neustaedter, T.: Am. J. Obst. & Gynec. 46:530 (Oct.) 1943.

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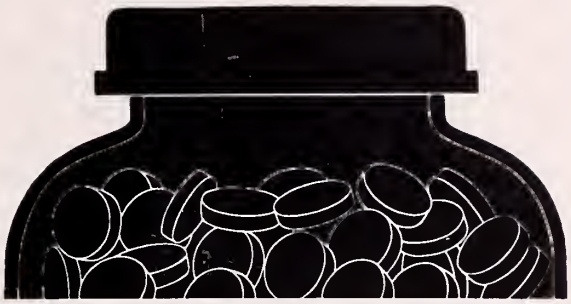
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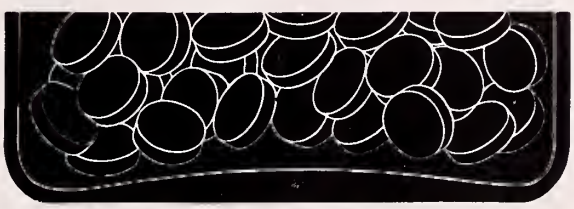
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ANNUAL MEETING OF THE SOUTHWESTERN MEDICAL ASSOCIATION

From the 26th of October to the 28th of October, Phoenix will be the host to the SOUTHWESTERN physicians and their families. 1950 has been a year of uncertainty in the profession as a whole. Communism has commenced to show its hand. Our troops are in action in Korea. This means that the medical profession will again be called upon to do its part in this particular action as they have in the past.

Newspaper columnists have not been so very kind to the profession, principally because of their lack of understanding. The physician is an individualist, and does not fit particularly well into any sort of regimentation whether it be the army, or whether it be a pipe dream of Oscar Ewing.

It has been said that a good soldier never volunteers, and it is unfortunate for the army in general that so many of us have recently served, so that it will undoubtedly be exceedingly difficult to obtain volunteers, at least at the present time. The profession in general fully realizes that many of its members, in all probability, will again put on the uniform during the next year.

MAY BE LAST

This meeting of the Southwestern Medical Association may possibly be the last opportunity that some of us will have to meet our friends and discuss our problems for some time to come. All of us sincerely hope that this is not the case, but for this reason it is extremely important that we make an attempt to get together, discuss our problems, and obtain the viewpoints of each and every one of us concerned with the practice of medicine in the Southwest.

The advances in medicine in the past years have been quite spectacular. New substances, such as ACTH and Cortisone, have come to the front. Isotopes used in clinical investigation and as a therapeutic procedure are now accepted as part of the physicians' equipment.

The Committee have been able to bring guest speakers, well versed in these advances, and particularly well able to present the subject matter in such a manner that each and every physician attending this conference will leave with a better and more adequate knowledge. The program to be presented is as follows.

WILLIAM DOCK, M. D.

Professor of Medicine, State University of New York (Long Island College of Medicine) Director of Medicine, Kings County Hospital, College Division.

M. D. Rush Medical College. Residency Peter Bent Brigham Hospital, Boston. Formerly Associate Professor of Medicine and Professor of Pathology, Stanford University. Professor of Pathology, Cornell.

Titles of Papers:

1. The Ballistocardiograph as an Aid in Management of Cardiac Problems in an Aging Population.
2. The Use of ACTH and Cortisone in Asthma and the Rheumatoid States.
3. Sodium Depletion in Treatment of Hypertension and Dropsy.
4. Proteinuria — Its Mechanism and Sequelae.

JOSEPH W. GALE, M. D.

Professor of Surgery, University of Wisconsin.

M. D. Washington University. Residency Barnes Hospital, St. Louis. Associate Surgeon, State of Wisconsin General Hospital. Surgeon, Wisconsin State Sanitorium, Statsan. Chief Surgical Branch, Dibble General Hospital, Menlo Park, California.

Titles of Papers:

1. Resection in the Treatment of Pulmonary Tuberculosis.
2. The Crippled Lung.
3. Carcinoma of the Lung.

LEON GOLDMAN, M. D.

Professor of Surgery, University of California.

M. D. University of California. M. S. (Physiology) Northwestern University. Residency University of California Hospital. Chief, University of California Surgical Service, San Francisco County Hospital.

Titles of Papers:

1. Nodular Goiter and Cancer of the Thyroid.
2. The Management of Acute Cholecystitis.

JOHN H. LAWRENCE, M. D.

Director, Donner Laboratory of Medical Physics, University of California.

M. D. Harvard University. Consultant Joint Task Force Number One, Bikini, July 1946. Chairman Division of Medical Physics. Associate Professor Experimental Medicine, University of California.

Titles of Papers:

1. The Use of Isotopes in Clinical Investigation and Therapy.
2. Current Research in Clinical Investigation and Therapy going on in the Donner Laboratory of Medical Physics.

GEORGE PINESS, M. D.

Associate Clinical Professor of Medicine, University of Southern California.

M. D. University of Maryland. Residency Hospital of the Good Samaritan. Attending Physician in Medicine, Hospital of the Good Samaritan, Los Angeles and Cedars of Lebanon Hospital. Chief of Allergy Clinic at Childrens Hospital and Good Hope Hospital, Los Angeles. Former President of American Academy of Allergy.

Titles of Papers:

1. Management of Problems in Bronchial Asthma.
2. The Diagnosis and Management of Unusual Allergic Syndromes.

MARCY L. SUSSMAN, M. D.

Clinical Professor of Radiology, University of Southern California.

M. D. Cornell. Residency Massachusetts General Hospital, Boston. Formerly Radiologist Mt. Sinai Hospital, New York. Clinical Professor of Radiology Columbia, University.

Title of Paper:

Body Section Radiography of the Lungs.

MAXWELL M. WINTROBE, M. D., PH. D.

Professor and Head of Department of Medicine, University of Utah.

M. D. University of Manitoba. Ph.D. Tulane University. Residency King George Hospital, Winnipeg, Canada. Physician in Chief Salt Lake General Hospital. Medical Consultant U. S. Atomic Energy Commission. Special Consultant U. S. Public Health Service.

Titles of Papers:

1. The Diagnosis and Treatment of Anemias.
2. The Effect of ACTH and Cortisone on the Hemopoietic System.

STEWART WOLF, M. D.

Associate Professor of Medicine, Cornell University.

M. D. Johns Hopkins. Residency New York Hospital. Associate Attending Physician in charge of Psychosomatic Clinic, New York Hospital. Clinical Associate Neuropsychiatrist, Bellevue Hospital.

Titles of Papers:

1. The Relation of Life Stress to Gastric Function and the Pathogenesis of Peptic Ulcer.
2. The Physiology of Pain with a Consideration of Visceral Pain Mechanisms.
3. Life Stress and Essential Hypertension.
4. The Internist as a Psychiatrist.

SALVADOR ZUBIRON, M. D.

Professor of Nutriology, National University Faculty of Medicine of Mexico.

M. D. National University of Mexico. Director of Hospital for Diseases of Nutrition, Mexico City.

Titles of Papers:

1. Clinical Manifestations of Malnutrition.
2. Nutritional Factors in the Etiology and Treatment of Hepatic Diseases.
3. Liver Biopsy as a Diagnostic Procedure.

AT WESTWARD HO

The scientific sessions and the exhibits are to be located at Hotel Westward Ho. The majority of us have had the opportunity of attending medical conferences at this hotel and know full well its convenience. The Phoenix convention committee is sparing no effort to make this conference a huge success. The general chairman of the meeting is Dr. Joseph Bank. Those of us who know Joe well are sure that all will be well and everything that should have been done will be done. It is somewhat early yet to announce all the exhibitors, but due to the untiring effort of Dr. M. W. Merrill, the committee is proud to list the following exhibitors:

G. D. Searle & Co.
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Meade Johnson & Company
Bilhuber-Knoll Corp.
Waitt-Randolph Equipment Co.
Doho Chemical Corporation
Allied Medical Supply, Inc.
Don Baxter, Inc.
Eli Lilly and Co.
U. S. Vitamin Corporation
M. & R. Dietetic Laboratories
The Upjohn Co.
The Coca-Cola Co.
Walker Vitamin Products, Inc.
Westwood Pharmaceuticals
Blair Surgical Supply, Inc.
Sandoz Pharmaceuticals, Inc.
The Borden Company
Westinghouse Electric Corp.
Mission Pharmacal Co.
General Electric X-Ray Corp.
A. H. Robbins Co., Inc.
Schering Corporation
Standard Surgical Supply Co., Inc.
W. B. Saunders Co.

SOUTHWESTERN MEDICINE wishes to thank the exhibitors for their fine co-operation. It may not be generally realized that these exhibitors play a great part in the success of any scientific meeting such as this. Not only do these exhibitors make available the very best in pharmaceutical advances, but also their help from a financial standpoint to the Association itself is great. Without their kind co-operation, it would be extremely difficult, and well nigh impossible to conduct a conference such as this. This should be remembered by every physician attending the conference, and each as an individual should make a distinct effort to visit these exhibits and by this act to some degree repay their courtesy.

LADIES PROGRAM

The committee as usual has not forgotten a very important phase of any confrence, and that is the entertainment. For the ladies the committee has made arrangements for special luncheons and entertainment. This, very wisely, is being arranged by a special Women's Committee. This is as it should be. The ladies always do a much better job. Phoenix, with its shops, its restaurants, and divers other sources of entertainment will undoubtedly afford those in attendance an exceptionally good time.

Opportunity for the golfers has been taken care of, so bring your clubs and your crying towel. On Thursday, October 26th, there will be an informal picnic dinner for the doctors and their wives. Any of the old-timers who have ever attended the Southwestern meeting in Phoenix are well acquainted with these informal picnic dinners, and anyone who hasn't been to Phoenix has really missed a good time. Good food, entertainment, and all the incidentals that go with this are assured at this get-together. On October 27th the Dinner-Dance will be held. This has always been a gala affair, and undoubtedly this year will be no exception. When you come, plan to stay for this. The Committee has worked hard, and the only recompense will be a good attendance at all affairs.

NO EFFORT SPARED

The Phoenix Convention Committee is sparing no effort to make this affair a success, and in fairness to them and to the officers of the Southwestern Medical Association, it becomes the duty of each and every practitioner of the Southwest to make every possible effort to be in Phoenix October 26th to October 28th.

Officers of the Southwestern Medical Association are:

President: *I. J. Marshall, M. D.,* Roswell, New Mexico.

President Elect: *L. W. Breck, M. D.,* El Paso, Texas.

First Vice President: *James Walsh, M. D.,* Douglas, Arizona.

Second Vice President: *Charles M. Thompson, M. D.,* Albuquerque, New Mexico.

Secretary-Treasurer: *Willard W. Schuessler, M. D.,* 1415 First National Building, El Paso, Texas.

General Chairman of Meeting: *Joseph Bank, M. D.,* 800 North First Avenue, Phoenix, Arizona.

Phoenix Convention Committee members are:

Dr. L. D. Beck	Dr. L. Clark McVay	Dr. Lloyd Swasey
Dr. John Cogland	Dr. Paul Jarrett	Dr. Kent Thayer
Dr. J. M. Greer	Dr. M. W. Merrill	Dr. David C. James

De Rebus Medicis Et Politicis

BY ROBERT B. HOMAN, JR., M. D., EL PASO, TEXAS
MEMBER OF THE HOUSE OF DELEGATES OF THE AMERICAN MEDICAL ASSOCIATION

CAMPAIGN FOR FREEDOM

Measurement of the success of the National Education Campaign of the A. M. A. is somewhat difficult to determine. Until a vote of the people is secured on the question of socialized medicine, the results of American medicine's plea for the American way of life must remain more or less in abstract. The A. M. A. campaign has been waged on the theme that the voluntary way is the American way. In other words, voluntary health and hospital insurance is superior to and more democratic than socialized, compulsory, government controlled "insurance" to provide medical care for the people. Is there tangible evidence of success of the campaign? Let us see.

PEPPER DEFEATED

In the political field, during the past several months, there has been the defeat of Senator Pepper of Florida and Senator Graham of North Carolina. Both of these men were torch-bearers for compulsory health insurance and other left wing movements. Although other strong organizations were in the field opposing Pepper, no less an authority than President Truman gives the A. M. A. credit for defeating the Senator. We are happy to receive this accolade. It is probably well deserved. In addition, Mr. Oscar Ewing has twice been denied his self-anointed back-door entrance to the control of American medicine through the defeat of his re-organization plans. The Senate blocked him in his first attempt, the House in his second. It thus seems obvious that the doctor's view is being respected by some of the voters and in the legislative branch of government.

Further evidence of the success of the Educational Campaign is found in the phenomenal growth of voluntary hospital and medical and surgical insurance coverage since the advent of the campaign some twenty months ago. Large industries such as U. S. Steel and Ford Motor, as well as thousands of smaller organizations, and groups, have provided coverage for employees through voluntary insurance plans. Doctors over the country report more and more patients and friends expressing unsolicited, outspoken opposition to government control of medical care. Thousands of organizations, large and small, have adopted resolutions opposing compulsory health insurance and the socialistic trend it furthers.

CLIMAX IN OCTOBER

The Education Campaign will reach a climax during the month of October. An intensive national newspaper, magazine, and radio advertising program is to be used for the first time in the campaign. A. M. A. ads will appear in over 10,192 local daily and weekly newspapers, in national magazines (circulation 54 million), in Sunday magazine sections (circulation 38 million), and in trade and business magazines. The radio schedule calls for the use of spot announcements on over 1000 stations in every part of the nation. The intense coverage will be during the period of October 8-22, 1950.

In conjunction with these advertisements, the campaign directors are inviting industry, business, and organizations to use "tie-in" ads at the same time — to further the fight against socialism and to preserve our American way of life. Newspapers everywhere have been furnished suggested advertising copy and prepared mats for use in this connection. Thousands of national and local business concerns have received samples of this copy and have been invited to participate in this campaign for the preservation of freedom in America. The response to date, at the national level, has been gratifying and inspirational.

However, the success of the campaign at the local level will be only as good as the doctors make it. Each doctor should call some of his business friends and invite them to join this nation-wide reaffirmation of our faith in freedom. The march of socialism in America must be stopped. This is your opportunity to help stop it.

PHOENIX, LEADING RESORT CITY

Phoenix, famous as one of America's favorite winter vacation lands, offers a wide variety of attractions for those planning to attend the annual Southwestern Medical Association meeting, Oct. 26-28, in Hotel Westward Ho.

Many of the motels, which offer excellent accommodations, have their own swimming pools. Horseback riding is one of the most enjoyable pastimes in the Valley of the Sun, and the surrounding cactus-studded desert provides the ideal setting for equestrians. There are fine stables with good horses at sprawling South Mountain Park, near picturesque Papago State Park east of the city, and in the citrus grove district.

The 18-hole municipal course at Encanto Park is located a few miles from the downtown area and a two-mile boating lagoon winds in and around the fairways. Encanto Park also offers facilities for outdoor picnics and barbecues, croquet, shuffleboard, horseshoes, roque and archery.

PAPAGO PARK

Papago Park also is the home of the famous Desert Botanical Garden, the only one of its kind in the world, 306 acres of which are devoted exclusively to desert plants. The unusual nature of plants displayed makes the garden a leading attraction for sightseers. Visitors to the garden will see thousands of varieties of cacti from Arizona, Mexico, Central and South America, and costal islands of both continents. Guide service through the grounds is available, and lectures are conducted on Sundays during the winter season.

Just 10 miles south of Phoenix is the 14,673 acre South Mountain Park, the largest municipally owned park in the nation. It has picnic areas, horseback trails and many rocks carved with inscriptions by early explorers.

(Continued on Page 331)

THE NEW WINKLER COUNTY MEMORIAL HOSPITAL



New Winkler County Memorial Hospital, Kermit, Texas

Many millions of dollars in construction have been spent in Kermit, Texas, since the discovery and production of deep oil late in 1943 started the town on a growing and expanding spree that has been amazing, even in the fast-growing Permian Oil Basin. But, few of the new facilities which have been added during the town's growth have been more needed or served a greater purpose than has Winkler County Memorial Hospital in Kermit, Texas.

By 1945 Kermit had outgrown everything, including schools, residences, business buildings—and medical facilities. Late in 1945 Kermit Chamber of Commerce was organized, and the very first project sponsored by the new organization was to secure and present petitions to the County Commissioners Court asking for a hospital bond election.

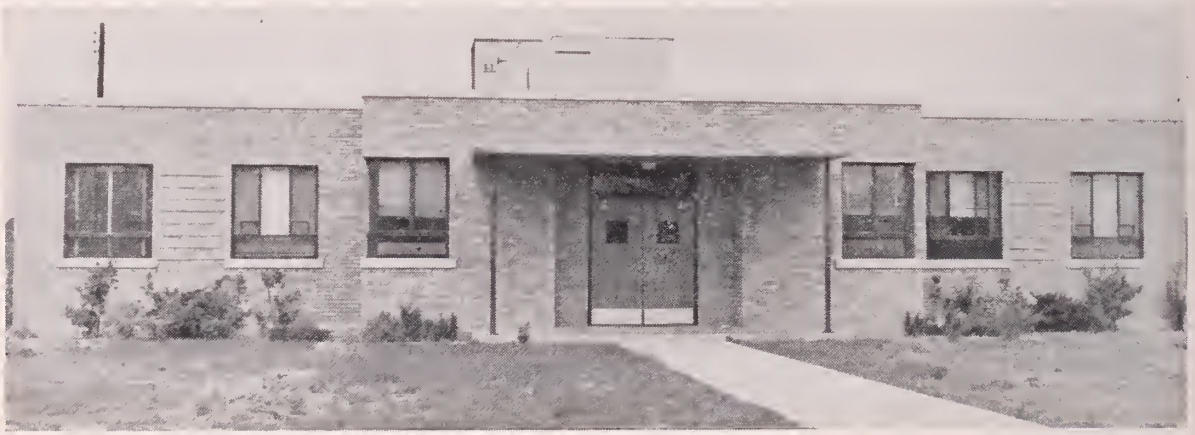
Early in 1946 voters of Winkler County approved action by the Civil Production Administration. When CPA approval was finally secured, construction costs had jumped and all bids received on the original hospital plans were much higher than the available funds.

The County did not seek federal aid, but instead plans were re-done, corners were cut, and in March of 1947 contracts were awarded for building the main hospital unit in Kermit and a Clinic Unit in Wink, Texas.

Winkler County Memorial Hospital was opened June 10, 1948, more than two years after the bonds were approved. Since then it has filled a long needed service to the area and county.

With an exterior of light face brick, the hospital is one of the most modern and one of the most completely equipped such institutions in the Southwest and is highly rated as such. The interior of the Kermit Unit consists of a medical surgical division of thirty two beds; a wing with a well equipped surgical suite, a major and minor operating room, central service, utility room and surgical supply room. A well equipped maternity division includes eight beds, a nursery with eight bassinetts, and two delivery rooms. The Wink Clinic Unit of the hospital has six beds and a combination emergency and treatment room.

Jack W. Shrode, who is the administrator, has been specially trained for the position. He holds a Masters Degree in Hospital Administration and served a resident training period at Harris Hospital, Fort Worth. At all times a staff of trained nurses is maintained to care for capacity occupancy of the hospital. The Nursing Service is headed by Mrs. Frances Hardwick, Director of Nursing Service. The total number of personnel for both Kermit and Wink Units is forty-one.



Clinic Unit, Wink, Texas

The medical staff is headed by Dr. W. H. McClure, with Dr. David Sauer serving as vice-president, and Dr. Joe Heath as secretary. Other staff members are Dr. B. A. Wight, and Dr. W. G. Plinke. Two other doctors, who had been in Kermit a number of years, began a year's leave of absence July 1. Dr. Cecil Robinson and his wife, Dr. Rose Robinson. Dr. Cecil

(Continued on Page 331)

EXPERIMENTAL CANCER RESEARCH AND ITS CONTRIBUTION TO OUR KNOWLEDGE OF CANCER

By E. T. Bell, M. D., Minneapolis

The great majority of scientists now engaged in cancer research are directing their attention toward the study of cancer in animals. These investigators are chemists, physicists and biologists, and few of them have had medical training. A paper on cancer morphology rarely appears on the program of the American Society for Cancer Research. The problem of cancer is being attacked from the point of view of the basic sciences on a very wide front. Although I am not participating in this basic research I heartily approve of it, since the morphologists concerned with human cancer are now making very little progress toward determining the fundamental nature of the disease.

In view of the enormous amount of time and money that has been devoted to experimental cancer research it is appropriate at this time that we try to assess the value of the contributions which have been made.

(1) THE ROLE OF CHEMICAL IRRITANTS IN THE ETIOLOGY OF CANCER

(a) Tar Cancers. Prior to 1915 it was well known that tar-workers developed a dermatitis followed by keratoses and cancers on parts of the skin continuously covered with tar. In 1915 Yamagiwa and Ichikawa succeeded in producing squamous cell carcinoma of the skin of the ear of rabbits by repeated applications of tar over a period of six months to one year. This was experimental proof of a fact rather well established by clinical observation.

Many years later Kennaway and associates studied the carcinogenic activity of pure hydrocarbons isolated from tar by Cook and others. They found that 1:2:5:6-dibenzanthracene is markedly carcinogenic. Later it was learned that 1:2 benzpyrene produces tumors in about one-half the time required by dibenzanthracene, and that methyl cholanthrene is even more efficient in producing cancers. Shear found that cholanthrene and methyl cholanthrene are both highly carcinogenic but that structural isomers of these hydrocarbons are only slightly carcinogenic or inactive.

Only a few of the hydrocarbons in tar are carcinogenic, and some are much more efficient than others in producing cancer. Carcinogenic activity is highly specific in the sense that a rearrangement of the groups in a molecule alters its effectiveness in producing cancer.

It appears that certain groups in the molecule of a carcinogenic hydrocarbon combine with or destroy something in the living cell thus changing it into a cancer cell.

HYDROCARBONS

The carcinogenic hydrocarbons from tar will produce cancers in almost any tissue of the body to which they are applied. They produce sarcomas in connective tissues, carcinomas in epithelial tissues, and various gliomas when introduced into the brain. This is an example of many types of cancer produced by the same irritants. They readily induce tumors in strains of mice that have few or no spontaneous tumors. The induced tumors are readily transplantable into other animals of the same species.

It has therefore been clearly established that certain hydrocarbons may convert normal cells into cancer cells. No one believes that these hydrocarbons cause human cancer, but it appears possible that some products of abnormal metabolism are carcinogenic. However, no such carcinogenic substance has yet been identified.

(b) Carcinoma of the liver has been produced in rats by feeding O-amidoazotoluol, and in mice by injection of this substance. Kinosita produced carcinoma of the liver in rats by feeding them butter yellow. These tumors may be prevented by the simultaneous administration of vitamin B complex. We have therefore a cancer produced by feeding a chemical substance, which may be prevented by the presence of an excess of vitamin B complex.

(2) CANCERS PRODUCED BY IRRADIATION

(a) Ultraviolet light. Since over 90 per cent of the carcinomas of the skin occur on the face, neck, and hands it has long been believed that ultraviolet light is a causative factor in these neoplasms. This concept is further supported by the rare cases of xeroderma pigmentosum in which the skin is so sensitive to sunlight that carcinoma develops in children. We do not really need any more evidence to prove that ultraviolet light is a major influence in carcinoma of the skin, but we also have experimental evidence. Carcinomas have been produced on the ears and tails of white mice by repeated exposures to ultraviolet light. We know the cause of carcinoma of the skin, and we can control it to a large extent.

(b) Roentgen rays and radium. It was known 40 years ago that repeated irradiation of the skin caused chronic dermatitis followed by keratoses and cancer. This was the unfortunate experience of roentgenologists before proper screening came into use. These were usually young men, and the cancers developed on their forearms and hands after several years of dermatitis. Watch-dial painters, who used a radium-mesothorium paint, developed osteogenic sarcoma. This is the clinical evidence that irradiation may produce cancer.

The experimental evidence corroborates clinical experience. Malignant tumors have been produced in rabbits by planting radium-filled platinum tubes in the tissues and leaving them for over two years. Irradiation of mice leads to the development of ovarian carcinomas.

The use of radioactive substances in the treatment of diseases such as hyperthyroidism is attended with some theoretical danger especially when radioactivity continues for a long time.

It may seem surprising that an agent which often destroys cancer can also induce its formation. When we want to destroy a cancer we give a large dose which kills the cancer cells. Repeated small doses injure and stimulate cells and sometimes change them into cancer cells.

(3) THE ROLE OF THE SEX HORMONES IN CANCER

The sex hormones exert an influence only on cancers of organs which they normally stimulate, viz., the breast in the female and the prostate in the male. In this field the experimentalists have led the way.

(a) Estrogens. In mammary cancer in mice three factors are necessary for the development of cancer,

viz., a virus, estrogens, and an hereditary chromosomal factor. Estrogens are very important; the males do not develop cancer of the breast. When very young mice of a high-breast cancer strain are ovariectomized, they seldom develop cancer of the breast. This is because the breast does not develop in the absence of stimulation by estrogens. It remains as an atrophic structure consisting only of large ducts as in the male.

When the male mouse of a high-breast cancer strain is continuously injected with estrogens the breast develops as in the female and becomes cancerous.

In human beings there are about 100 cancers of the breast in the female to one in the male, because the male breast is usually atrophic. It is clear that estrogen plays a role in maintaining the development of the breast. There is very little breast tissue in the male. Two or three cases have been reported in which males with carcinoma of the prostate treated with estrogens over a long period have developed gynecomastia and a carcinoma of the breast.

There is further clinical evidence of the importance of estrogens. In young women with carcinoma of the breast castration frequently produces a marked temporary recession of symptoms, but no cures have been reported.

The fact that a large proportion of breast cancer occurs after the menopause throws doubt upon the importance of estrogens; but we know that the breast tissue atrophies slowly after the menopause and that estrogens are also formed in the adrenals.

Curiously enough the administration of estrogens often causes a definite temporary improvement in advanced carcinoma of the breast.

(b) Androgens. Androgens are formed in the interstitial cells of the testes and they stimulate the prostate gland. The prostate remains undeveloped in males castrated early in life. Huggins found that many patients with carcinoma of the prostate were temporarily benefitted by orchiectomy. There is frequently relief of pain and some regression of metastases; but there are no permanent cures, and many patients are not benefitted. There is no doubt, however, that the tumor is frequently stimulated by androgens from the testes. Temporary improvement is sometimes obtained by administration of stilbestrol which presumably neutralizes the effect of the androgens.

We may conclude that estrogens promote the development of cancer of the breast chiefly by maintaining the development of breast tissue, and to a much lesser extent by stimulating the cancer tissue. Androgens stimulate prostatic cancers. We do not know to what extent they initiate the cancer.

(4) THE ROLE OF PARASITES IN CANCER

The only human cancer known to be related to a parasite is bilharzia cancer of the bladder in Egyptians. This schistosome grows in the wall of the bladder and produces a severe chronic cystitis which finally terminates in carcinoma. It appears possible that some toxic substance in the parasite stimulates the epithelium of the bladder to neoplastic growth.

In animals there are two known examples of cancer developing about an infection with animal parasites: viz., the spiroptera carcinoma of the stomach in rats and the cysticercus sarcoma of the liver in rats. In both of these instances the cancer develops in the inflammatory tissue produced by the parasite.

There is no evidence that animal parasites are concerned in any other cancers in man or animals. There is also no evidence that bacteria are concerned directly in any cancer; but rarely a sarcoma develops from fibroblasts in an inflammatory area.

(5) VIRUSES AS A CAUSE OF CANCER

In this field experimental cancer research has made valuable contributions to our knowledge. It has been found that several varieties of sarcoma in chickens are caused by viruses, i. e., they may be transmitted by a cell-free filtrate of the tumor. Each histological type is caused by a specific virus. Sarcomas in chickens induced by carcinogenic hydrocarbons apparently do not contain a virus since they cannot be transmitted by cell-free filtrates; and living tumor cells are required for transmission of the tumor.

Perhaps the most interesting of the virus-induced tumors is spontaneous carcinoma of the breast in mice. The virus is transmitted from mother to offspring through the milk. The offspring of a high-breast-cancer mother do not develop cancer of the breast if they are foster-nursed by a mother of a low-breast-cancer strain. Three factors are necessary for the development of spontaneous breast cancer in mice, viz., a virus which is transmitted through the milk, an estrogen which causes growth of the breast, and a chromosomal factor — only special strains of mice being susceptible. This cancer is now well understood and is controllable by foster nursing.

We do not know whether a virus is concerned in human breast cancer, but it appears possible. In families with a high incidence of cancer of breast, we may some day recommend that the mothers do not nurse their children. If a baby mouse gets a drop of milk from its mother it gets the virus. It will require many years before this question can be answered.

There is no doubt that a virus is concerned in some animal cancers, but there is no direct evidence that a virus causes any human cancer.

(6) EVIDENCE ON THE GROWTH OF CANCER

Experiments with animal cancer have shown that nearly all malignant tumors may be successfully transplanted into other animals of the same species, but they rarely grow to any notable extent in animals of another species. In this respect cancer cells differ from normal cells, since very few normal tissues live permanently when transplanted to another animal of the same species. You cannot successfully transplant a kidney from one animal to another of the same species but you can transplant a tumor. Some tumors can be grown in tissue culture in test tubes.

CONCLUSION

The major contributions of experimental cancer research are as follows:

(a) Cancer may be induced by a great many specific chemical substances, the best known of which are complex hydrocarbons derived from tar. Some carcinogenic compounds are more active than others in inducing cancer, and their capacity to produce cancer seems to depend upon irritation of the cells in some unknown way, possibly by combining with molecular groups in the protoplasm. Simple chronic irritation does not produce cancer. The prolapsed cervix becomes cornified but is not especially prone to develop cancer.

(b) Viruses play an important role in certain spontaneous tumors in animals, viz., sarcoma of chickens, carcinoma of the breast in mice, the Shope papilloma of the skin of rabbits, and carcinoma of the kidney in frogs.

(c) Cancer cells grow more vigorously than normal cells, but they require oxygen and food for growth as normal cells do.

(d) Heredity plays an important role in animal cancer, and by analogy in human cancer also.

(e) The combination of several factors is often necessary for the development of an animal cancer, e. g. Mammary cancer in mice requires the association of a virus, an estrogen and an hereditary or chromosomal factor.

(f) The host does not offer any appreciable resistance to the growth of a cancer. Immunization against cancer has not been successful.

THE GOALS OF EXPERIMENTAL CANCER RESEARCH

The experimental investigator hopes some day to answer the following questions:

In what respects do cancer cells differ from normal cells? Is it possible to interrupt an enzyme system in a cancer cell and cause its death? Can a chemical be found which will inhibit or destroy cancer cells without producing serious injury to normal tissues? Is there a single basic influence which changes normal cells to cancer cells? Can this change be brought about by an unlimited number of irritants? Is each histological type of cancer a different disease with a separate etiology?

PRACTICAL APPLICATIONS OF EXPERIMENTAL CANCER RESEARCH

Experimental research has taught us a great deal about cancer but has not yet produced very much to help the clinician in the treatment of a patient with cancer. A pessimist might say that the experimentalists have taught us forty ways to produce cancer but no new way to prevent or destroy it. We must still depend upon early recognition of the disease and adequate surgical removal or destruction of the growth by irradiation. We confidently expect that the experimentalists will at some future time furnish us with better weapons, and we should continue to support experimental study on a wise scale; but in the meantime we must use the knowledge and techniques that we now possess to the best of our ability.

Laryngeal Tumors

Hoarseness is the most common symptom of laryngeal tumors; other symptoms are dyspnea and chronic coughing. A careful examination with a laryngeal mirror should be carried out whenever these symptoms occur. Repeated examinations of the area are recommended if the tumor is not found the first time. Biopsy is necessary to establish a positive diagnosis.

Cunning, D. S.: Diagnosis and Treatment of Laryngeal Tumors, J. Am. M. A. *142*:73 (Jan. 14) 1950.

Southwestern MEDICINE

Journal of
SOUTHWESTERN MEDICAL ASSOCIATION
and EL PASO COUNTY MEDICAL SOCIETY

Vol. XXXI OCTOBER, 1950 Number 10

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RUPTURE OF THE UTERUS WITH TWO UNUSUAL CASES

By Eugene G. McCarthy, M. D.
Plainview Clinic, Plainview, Texas

INCIDENCE

Rupture of the uterus occurs on an average of once in 2000 pregnancies. The present day discontinuance of podalic version and vaginal manipulations (Bag insertion and Hicks version) in placenta praevia have not decreased its incidence. Although the low segment caesarian scar is the site of rupture about half as frequently as the old classical one, the incidence of rupture remains stationary. The increasing number of women with caesarian scars serves to uphold the percentage.

ETIOLOGY

Brierton[1], in a recent paper, traces the trend in causes of rupture of the uterus. Obstetrical trauma causing 40 per cent or more ruptures in the past has decreased now, accounting for 15 per cent. Ruptures through caesarian scars have increased in spite of the great increase in the low segment operation. Large babies and grand multiparas with thinned out cicatricial uterine walls account for a small percentage of cases. Myomectomy scars and degenerated fibroids also are an infrequent cause of dissolution of the uterine wall. Placenta praevia and premature placental separation cause a few ruptures, the former making the lower uterine segment friable because of its vascularity and the latter by a dissecting hemotoma of the myometrium. Cervical stenosis from cauterization or operation may lead to rupture. I am adding two rarer causes, that is, dissolution of the myometrium from the excessive cytolytic enzymes of a previous invasive mole and mymetrial invasion by placenta percreta. Of the latter Hertig reported four cases in the entire literature up to 1938. Of the former, only one mention that I know of has been made. Two moles in the same patient is in itself a medical curiosity.

CASE NO. I, HOSPITAL NO. M-1877

Mrs. N. D. W., Age 26, Gravida III, Para I.

Past History: Three months abortion in 1945 with curettage after six weeks bleeding. Friable tissue not definable as placental elements removed. After this she had menorrhagia and continuous right sided pelvic pain until next pregnancy in 1946 when she delivered a normal full term baby. There was difficulty in placental separation and she had a prolonged period of bleeding post partum. She felt fairly well after several months and reported in to the clinic three months pregnant on September 15, 1948.

Present Pregnancy: She complained of moderate right sided pressure pains at five months gestation. Her blood pressure, urinalysis and blood picture remained normal. At seven months she was admitted to the hospital with recurrent abdominal pains and a diagnosis of threatened premature labor was made. However, no uterine contractions were felt. After sedation, she was sent home. On May 25, 1949 at 5:00 a. m., she was awakened from sleeping by a knife-like pain in the epigastrium and difficulty in breathing. She was seen at 5:15 a. m., and was found in profound shock. Pulse was imperceptible and blood pressure was 60/0. The fetal heart was heard at this time but lost in the next fifteen minutes. The abdominal muscles were rigid and rebound tenderness was marked. Suitable blood was obtained and laparotomy was done at seven o'clock. A clean punched out hole in the uterus the size of a dollar was found in the top of the uterus towards the right cornu. The placenta was bulging through this opening and the uterine sinuses were bleeding moderately. The area was excised around to healthy myometrium and closed with three layers of chromic sutures, after hysterotomy and extraction of a dead baby was performed. A hasty tubal ligation was done and the abdomen closed. She received 2400 cc of blood during and after surgery and made an uneventful recovery. Section of the myometrium at the penetration showed excess of fibroblasts and necrotic muscle cells. The villi appeared normal in structure except for retention of the Langhans layer of cells. Hertig[2] in discussing the etiology of placenta accreta mentioned old traumatic areas from previous curettage as a possible cause of the invasive villi. This woman's history would make this feasible.

CASE NO. II

Mrs. V. C., Age 37, Para II, Gravida IV. This lady was night supervising nurse at our hospital.

Past History: A miscarriage at 3½ months in 1946 with continued bleeding. This necessitated a curettage and the physician diagnosed hydatidiform mole from the curettings. In November 1948 she delivered a full term infant at which time her physician experienced difficulty in extracting the placenta. Eighteen hours post partum she went into sudden shock and a diagnosis of ruptured uterus was made. Laparotomy revealed a necrotic bleeding area in the fundus mid-way between the cornu. The area was about the size of a silver dollar. Resection down to healthy myometrium was done and hasty closure with three rows of chromic sutures. No sterilization done. (The infant died three weeks after a gastro-enterotomy for duodenal atresia.)

Present Pregnancy: This patient returned to work but never felt very well. Menses were irregular and fatigue was constant. She consulted us on October 6, 1949 as she was eight weeks overdue and spotting blood two weeks. A frog test was strongly positive even in diluted urine. On consultation with her physician we decided that it would be best to avoid intrauterine curettage. We reasoned that the scar of the old rupture was an unknown quantity and combined hysterotomy and tubal ligation were indicated. On October 21, 1949, a laparotomy was done. The well healed scar of previous rupture could be seen plainly and to the right of it an area of impending rupture covered only by a bleb of serosa was seen. The finger could be easily pushed into the friable blood clot that had replaced the myometrium. A subtotal hysterectomy was done. Section of the specimen revealed the grape-like growths of a hydatidiform mole.

Pathological Report: (Terrell's Laboratory) Gross specimen of uterus measures 7.5 x 8 x 6 cm. It has been opened and contains clear globules like grapes. In one area there is a penetration of the uterine wall by hemorrhagic material. Microscopic section reveals pure blood clot in the disrupted area. No chorionic villi in this area. The contents of the uterus show enlarged villi with increased amount of syncytial and Langhan's elements characteristic of hydatidiform mole. No malignancy seen.

DISCUSSION

As a rule rupture of the uterus constitutes along with ruptured tubal pregnancy one of the most shock-producing dire emergencies in obstetrics. As with tubal gestation and premature separation of the placenta, immediate operation is imperative. Many cases have been lost through temporizing, pouring transfusion after transfusion into a patient only to see her fade away. The job of stopping the leak must be done first even on a moribund patient and then the transfusing can begin. In both of these cases, plasma and fluids caused a transient boost in blood pressure and this was deemed the opportune moment for surgery. That optimum few minutes soon passes. The opening of the abdomen in both of these cases was entirely bloodless. There is no time lost in ligating vessels.

A word about the value of the frog test may not be amiss here. The case of hydatidiform mole would have been diagnosed had we done a spinal fluid gonadotropic test. The results of the test are gotten in thirty minutes to two hours and we have never had a false positive. In normal pregnancy, the gonadotropin does not spill over to the spinal fluid.

PLACENTA ACCRETA

Another word about placenta accreta. The absence of the spongy layer in the decidua is the most constant finding. The varieties are named according to the degree of invasion of the trophoblast. Accreta denotes shallow invasion; increta, deeper penetration into the mymoetrium; percreta, complete penetration. The accreta is most common and diagnosed when, on failure to expel the placenta, attempts at manual removal reveal no line of cleavage at uteroplacental junction. Hysterectomy is most often necessary as attempts at vaginal removal lead to hemorrhage plus infection. The increta variety not often has the external or internal hemorrhage and as Polak pointed out, may be treated expectantly with gradual resorption of the placenta just as in abdominal pregnancy. The percreta variety, rare as it is, becomes a surgical emergency.

DIAGNOSIS

This is easy in the explosive ruptures with hemoperitoneum. Shock is the cardinal sign. Even in some of these cases, however, little shock has been seen with fetus and placenta free in the abdomen and the uterus nicely contracted to tamponade the bleeding site. The lower segment ruptures due to obstetric trauma show vaginal bleeding with a great degree of shock. Manual palpation of cervix and interior of uterus should be done in cases of post-delivery shock.

TREATMENT

Depends on site of rupture, its extent and the condition of the patient. Simple repair in smaller ruptures has yielded as good results as supravaginal hysterectomy. The larger ruptures, as a rule, demand hysterectomy. If simple repair is done, in multiparae tubal ligation should accompany it. Again I would admonish against temporizing with packs and hopeful waiting. The optimum time for operating in shock is a few fleeting moments, and pouring more blood in, only increases the hemoperitoneum and the shock. Better to have the patient die under aggressive treatment than with passive observation.

PROGNOSIS

As Brierton pointed out, the most deceptive and most fatal ruptures are those due to obstetric trauma. Here an extension may occur through the cervix into the broad ligament, forming a slowly gathering hematoma that is not apparent enough to demand immediate action. Mortality has been 60 per cent to 75 per cent. In our cases the sudden rupture with intraperitoneal bleeding gets quick action and mortality is lower, averaging 15 per cent to 40 per cent.

SUMMARY

A discussion of rupture of the uterus with etiology, incidence, treatment and diagnosis. Two rare causes of rupture are presented. One due to digestion of uterine wall by excess cytolitic enzyme of a hydatidiform mole. The other due to atrophic or absent decidua with inability to limit the invasion of the trophoblast. — January 25, 1950.

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2. Hertig, A. T. Placenta Accreta: A Survey of the Literature and Presentation of Eighteen cases. Sur. Gyn. and Obs. 61 1938.

Phoenix Leading Resort City

(Continued from Page 325)

PUEBLO GRANDE

Pueblo Grande is located about five miles from Phoenix and houses prehistoric ruins and a museum. The Heard Museum is one of the finest show places in Arizona and has an excellent collection of ancient Indian artifacts and modern Indian handicraft. The museum is open every day except Monday, free of charge, from 1 to 5 p. m. One of the most fascinating collections is that of Hopi and Zuni Kachina dolls — weird and mysterious little figures representing tribal gods.

Dotted around the foothills of craggy Camelback Mountain are resort showplaces, which provide guests the utmost in luxury accommodations. Phoenix offers horse-racing, dog-racing, and year-around bass fishing at lakes within a two-hour drive. There is deep sea fishing at Rocky Point 215 miles from Phoenix on a paved highway. Visitors are welcome at Williams Air Force Base, the only jet fighter school base in the nation. Over 400,000 acres of irrigated land in the area are used to grow winter produce.

The New Winkler County Memorial Hospital

(Continued from Page 326)

Robinson will spend a year at the post graduate school of medicine at the University of Iowa, where he will be an assistant and student of Dr. Arthur Steindler, professor of orthopedic surgery.

HOSPITAL BOARD

Management of the county hospital facilities is handled by the hospital board, which is now composed of M. H. Alberts, Max Hause, Roy Charlesworth and John Moore, all of Kermit, and Charles Ogle and Glenn Claibourne, both of Wink.

Members of the Winkler County Commissioners Court have changed during the years since the hospital was first begun. The Court now includes J. B. Salmon, county judge, and Commissioners Tommy Mills, R. E. Leese, W. K. Wharton and Mack Moore.

Citizens and the doctors of Winkler County are justly proud of the medical facilities which have been furnished without outside help. And, they are determined that these facilities shall be kept abreast of the continued growth and development which is indicated for the area.

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BARKER, CLYDE J., JR.
15 E. Monroe
Phoenix
BARKER, ROBERT D.
15 E. Monroe
Phoenix
BATE, THOMAS H.
15 E. Monroe
Phoenix
BECK, L. D.
1626 N. Central Ave.
Phoenix
BENDHEIM, OTTO L.
1515 N. 9th St.
Phoenix
BISHOP, WILLIAM A., JR.
1313 N. 2nd St.
Phoenix
BLANK, EDWARD
733 W. McDowell
Phoenix
BLOOMHARDT, SAMUEL I.
15 E. Monroe
Phoenix
BORAH, CHARLES E.
15 E. Monroe
Phoenix
BRALLIAR, FLOYD B.
Wickenburg
BREGMAN, EDWARD H.
Good Samaritan Hosp
Phoenix
BREWER, WILLIAM A.
412 W. Roosevelt
Phoenix
BRINKERHOFF, DAVID E.
926 E. McDowell
Phoenix
BROOKS, JACK E.
312 W. McDowell
Phoenix
BROWN, PRESTON T.
1313 N. 2nd St.
Phoenix
BROWNE, TREVOR G.
543 E. McDowell
Phoenix
BRYANT, IRA M.
6 S. Macdonald
Mesa
CALDWELL, HAYES W.
15 E. Monroe
Phoenix
CAMPBELL, ZEPH B.
15 E. Monroe
Phoenix
CANIGLIA, SEBASTIAN R.
543 E. McDowell
Phoenix
CARLSON, DONALD G.
543 E. McDowell
Phoenix
CASE, PAUL H.
15 E. Monroe
Phoenix
CAUSEY, PAUL S.
926 E. McDowell
Phoenix
CHARVOZ, ELTON R.
1103 E. Culver
Phoenix
CHEIKER, ABRAHAM
16 S. Macdonald St.
Mesa
CLARK, ROBERT W.
25 W. 8th St.
Tempe
CLAYPOOL, LEWIS B.
1313 N. 2nd St.
Phoenix
CLEVELAND, WILLIAM H.
1313 N. 2nd St.
Phoenix
CLOHESSY, TIMOTHY T.
15 E. Monroe
Phoenix
COFFEY, JAMES L.
316 W. McDowell
Phoenix
COGLAND, JOHN L.
15 E. Monroe
Phoenix
COHEN, MATTHEW
15 E. Monroe
Phoenix
COLEMAN, FREDERICK W., JR.
15 E. Monroe
Phoenix
CONDON, DANIEL J.
15 E. Monroe
Phoenix
CONNER, SHARREL K.
926 E. McDowell
Phoenix
CRAIG, CARLOS C.
1313 N. 2nd St.
Phoenix
CROW, MARVIN B.
Southside District Hospital
Mesa
CRUTHIRDS, ARCHIE E.
15 E. Monroe
Phoenix
CUMMING, HARRY A.
1313 N. 2nd St.
Phoenix
CUMMINGS, ROBERT H.
15 E. Monroe
Phoenix
DAGRES, LUCILLE M.
543 E. McDowell
Phoenix
DAVIS, EDWARD W.
Avondale
DAY, MERRIWETHER L.
926 E. McDowell
Phoenix
DENNINGER, HENRI S.
Glendale
DE PINTO, ANGUS J.
15 E. Monroe
Phoenix
DUISBERG, RICHARD E. H.
15 E. Monroe
Phoenix
DYSART, PALMER
15 E. Monroe
Phoenix
ECKSTEIN, ALBERT
1515 N. 9th St.
Phoenix
EDEL, FRANK W.
738 E. McDowell
Phoenix
EHRLICH, JOSEPH C.
1313 N. 2nd St.
Phoenix
EHRLICH, LEE
1313 N. 2nd St.
Phoenix
EISENBEISS, JOHN A.
926 E. McDowell
Phoenix
EMERT, JAMES T.
1313 N. 2nd St.
Phoenix
ENFIELD, GEORGE S.
15 E. Monroe
Phoenix
ENGLUND, DE WITT W.
1313 N. 2nd St.
Phoenix
ERICKSON, MILTON H.
32 W. Cypress
Phoenix
FABRIC, CLARENCE C.
120 S. 1st Ave.
Phoenix
FAHLEN, FREDERICK T.
543 E. Thomas Rd.
Phoenix
FELCH, HARRY J.
15 E. Monroe
Phoenix
FILLMORE, A. JAMES
34 N. Macdonald
Mesa
FINDLEY, JOHN W., JR.
800 N. 1st Ave.
Phoenix
FLINN, ROBERT S.
15 E. Monroe
Phoenix
FLOHR, MARTIN C.
Tolleson
FORSTER, WESLEY G.
543 E. McDowell
Phoenix
FOSTER, JOHN
543 E. McDowell
Phoenix
FOSTER, R. LEE
15 E. Monroe
Phoenix
FOURNIER, DUDLEY T.
15 E. Monroe
Phoenix

FRANKLIN, HENRY L.
15 E. Monroe
Phoenix
FRAZIER, V. EUGENE
35 E. Main St.
Mesa
FRENCH, HARRY J.
14 N. Central Ave.
Phoenix
FRISSELL, BEN P.
15 E. Monroe
Phoenix
FULK, MURL E.
Glendale
FURTH, WILLIAM G.
11 W. Jefferson
Phoenix
FUSCO, L. DONALD
315 E. Dunlap
Phoenix
GAIN, DOUGLAS D.
342 W. Berridge Lane
Phoenix
GALISON, LOUIS
Buckeye
GARRISON, ISAAC L.
540 W. McKinley
Phoenix
GASKINS, DUKE R.
15 E. Monroe
Phoenix
GATTERDAM, EUGENE A.
15 E. Monroe
Phoenix
GILBERT, GORDON L.
543 E. McDowell
Phoenix
GINN, J. ALLEN
753 E. McDowell
Phoenix
GOODMAN, DANIEL H.
112 N. Central Ave.
Phoenix
GOSS, HARRY L.
316 W. McDowell
Phoenix
GRAHAM, DUNCAN G.
114 W. Pepper
Mesa
GRANDSTAFF, ELEANOR H.
Maricopa County Hosp.
Phoenix
GREEN, JOHN R.
15 E. Monroe
Phoenix
GREEN, MONROE H.
1137 W. McDowell
Phoenix
GREER, JOSEPH M.
15 E. Monroe
Phoenix
GREGORY, T. RICHARD
832 N. 7th Ave.
Phoenix
HAINES, RONALD S.
926 E. McDowell
Phoenix
HAISLIP, DONALD B.
15 E. Monroe
Phoenix
HALE, SAMUEL H.
Scottsdale
HALL, KENNETH E.
540 E. Dunlap
Phoenix
HALL, NORMAN D.
1313 N. 2nd St.
Phoenix
HAMER, JESSE D.
15 E. Monroe
Phoenix
HARBRIDGE, DELAMERE F.
15 E. Monroe
Phoenix
HARRIS, KARL S.
15 E. Monroe
Phoenix
HARTGRAVES, THOMAS A.
926 E. McDowell
Phoenix
HARTMAN, STANFORD F.
926 E. McDowell
Phoenix
HAYNES, BERTRAM P.
Buckeye
HENDERSON, CHARLES E.
753 E. McDowell
Phoenix
HENRY, WILLIAM N.
Wickenburg
HERBST, KENNETH A.
15 E. Monroe
Phoenix
HERZBERG, BENJAMIN
1313 N. 2nd St.
Phoenix
HILTON, ROBERT K.
Litchfield Park
HIPSLEY, ROLAND W.
753 E. McDowell
Phoenix
HOLMES, CARL A.
1401 N. 7th Ave.
Phoenix
HOLMES, FRED W.
15 E. Monroe
Phoenix
HOLTON, STANLEY W.
Reynolds Metal Co.
Phoenix
HONSIK, FRANK J.
4308 N. 7th Ave.
Phoenix
HOPKINS, DORIS F.
15 E. Monroe
Phoenix
HORVATH, CHARLES N.
2921 N. 24th St.
Phoenix
HUGHES, THOMAS J.
3 E. 7th St.
Tempe
HURIANEK, ZDENKA A.
15 E. Monroe
Phoenix
HUSSONG, RULAND W.
15 E. Monroe
Phoenix
IRVINE, GEORGE B.
4 W. 5th St.
Tempe
JAMES, DAVID C.
15 E. Monroe
Phoenix
JARRETT, PAUL B.
543 E. McDowell
Phoenix
JEFFERY, MILLARD
517 W. McDowell
Phoenix
JEFFERY, VOGEL J.
Gila Bend
JEKEL, LOUIS G.
15 E. Monroe
Phoenix
JENNETT, RAYMOND J.
543 E. McDowell
Phoenix
JOHNS, RICHARD B.
15 E. Monroe
Phoenix
JOHNSON, JAMES L.
15 E. Monroe
Phoenix
JOHNSON, PAUL A.
25 W. McDowell
Phoenix
JOHNSON, PHILLIP L.
316 W. McDowell
Phoenix
JOHNSON, WILLIAM A.
Glendale
JONES, ROBERT E.
1313 N. 2nd St.
Phoenix
JORDAN, FRED C.
801 N. 2nd Ave.
Phoenix
JOSEPH, SAMUEL R.
711 W. Thomas
Phoenix
KALIL, CHARLES
14 N. Central Ave.
Phoenix
KANE, ARNOLD L.
832 N. Seventh Ave.
Phoenix
KATZ, LOUIS
802 E. Ind. Sch. Rd.
Phoenix
KAYE, JEROME
1313 N. 2nd St.
Phoenix
KENNEDY, JOHN W.
15 E. Monroe
Phoenix
KENT, MELVIN L.
34 N. Macdonald
Mesa
KEPPEL, J. EDWIN
206 E. Main St.
Mesa
KETCHERSIDE, HILARY D.
800 N. 1st Ave.
Phoenix
KILGARD, FRANK M.
913 N. 3rd St.
Phoenix
KOBER, LESLIE R.
15 E. Monroe
Phoenix
KRIPKE, MORTON J.
6 S. Macdonald St.
Mesa
KROEGER, HILDA H.
(See Out of State List)
KRUGLICK, JOHN
1313 N. 2nd St.
Phoenix
LAWRENCE, HOWARD C.
15 E. Monroe
Phoenix
LENTZ, JOSEPH S.
543 E. McDowell
Phoenix
LEVICK, ALFRED D.
1137 W. McDowell
Phoenix
LOVELESS, PHIL H.
543 E. McDowell
Phoenix
LUTFY, LOUIS P.
301 W. McDowell
Phoenix
LYTTON-SMITH, JAMES
926 E. McDowell
Phoenix
MANOIL, LAZARUS
34 W. Lynwood
Phoenix
MARTINEK, JAROSLAV
1519 E. Harvard
Phoenix
MATANOVICH, MIHAJLO
15 E. Monroe
Phoenix
MAYNE, RICHARD H.
1515 N. 9th St.
Phoenix
McCRACKEN, PAUL W.
116 S. 12th Ave.
Phoenix
McDONALD, JAMES H.
15 E. Monroe
Phoenix
McFARLAND, PAUL E.
509 W. McDowell
Phoenix
McGILVRA, RAYMOND I.
307 E. Ind. Sch. Rd.
Phoenix
McGRATH, WILLIAM B.
15 E. Monroe
Phoenix
McKENNA, JOHN F.
15 E. Monroe
Phoenix
McKEOWN, HILTON J.
926 E. McDowell
Phoenix
McKHANN, GEORGE G.
15 E. Monroe
Phoenix
McLOONE, JOHN J.
15 E. Monroe
Phoenix
McVAY, L. CLARK
15 E. Monroe
Phoenix
MEDIGOVICH, DUSHAN V.
15 E. Monroe
Phoenix
MELICK, DERMONT W.
15 E. Monroe
Phoenix
MELTON, BERNARD L.
15 E. Monroe
Phoenix
MEREDITH, DANIEL T.
316 W. McDowell
Phoenix
MERRILL, MARRINER W.
800 N. 1st Ave.
Phoenix
MEYER, WALLACE M.
15 E. Monroe
Phoenix
MEZERA, LAD R.
Capitol Annex
Phoenix
MILLOY, FRANK J.
15 E. Monroe
Phoenix
MILLS, C. SELBY
926 E. McDowell
Phoenix
MIYAUCHI, YUKIO
Glendale
MOATS, DEAN T.
316 W. McDowell
Phoenix
MOORE, JAMES R.
15 E. Monroe
Phoenix
MOORE, ROBERT L.
15 E. Monroe
Phoenix
NELSON, WILLIS J.
15 E. Monroe
Phoenix
NEVINS, CHARLES R.
2258 N. 15th Ave.
Phoenix
O'CONNOR, JEFFREY A.
316 W. McDowell
Phoenix
OHL, HOWARD J.
25 W. McDowell
Phoenix
PALMER, E. PAYNE
15 E. Monroe
Phoenix
PALMER, E. PAYNE, JR.
15 E. Monroe
Phoenix
PALMER, PAUL V.
15 E. Monroe
Phoenix
PALMER, RALPH F.
15 E. Monroe
Phoenix
PATTERSON, JOHN H.
316 W. McDowell
Phoenix
PATTERSON, WILLIAM B.
54 W. Main St.
Mesa
PAUL, DAVID
3012 W. Van Buren
Phoenix
PAYNE, WILLIAM G.
4 W. 5th St.
Tempe
PETERSON, KENNETH E.
7 W. McDowell
Phoenix
PHILLIPS, ROBERT T.
150 W. McDowell
Phoenix
PIEPERGEROES, CLARENCE C.
1313 N. 2nd St.
Phoenix
PLOUSSARD, CHARLES N.
15 E. Monroe
Phoenix
POHLE, CHARLES L. von
Chandler
POHLE, ERNEST E.
25 W. 8th St.
Tempe
POLSON, DONALD A.
800 N. 1st Ave.
Phoenix
PORTER, DWIGHT H.
800 N. 1st Ave.
Phoenix
PRICE, ROBERT A.
2258 N. 15th Ave.
Phoenix
RAMENOFSKY, ABRAHAM I.
39 W. Adams
Phoenix
RANDALL, GEORGE E.
320 N. Laurel Ave.
Phoenix
RANDOLPH, HOWELL S.
15 E. Monroe
Phoenix
REED, WALLACE A.
926 E. McDowell
Phoenix
REESE, FORREST L.
15 E. Monroe
Phoenix
REICHERT, JACOB
303 W. McDowell
Phoenix
REINOEHL, WARREN L.
800 N. 1st Ave.
Phoenix
RICE, ALFRED G.
Chandler
RICE, PHILIP E.
Glendale
RICHTER, MAURICE R.
St. Joseph's Hospital
Phoenix
RICKER, JOHN H.
926 E. McDowell
Phoenix
RIORDAN, JAMES J.
926 E. McDowell
Phoenix

RISSER, CHRISTIAN F.
338 E. Dunlap
Phoenix
ROBB, MAYO
15 E. Monroe
Phoenix
ROGERS, GEORGE K.
105 W. McDowell
Phoenix
ROSENQUIST, R. W.
Scottsdale
ROSENTHAL, MAURICE
543 E. McDowell
Phoenix
ROSS, NORMAN A.
15 E. Monroe
Phoenix
ROTHMAN, SAMUEL I.
1617 E. McDowell
Phoenix
ROWLEY, THOMAS O.
34 N. Macdonald
Mesa
RUNNING, E. HENRY
150 W. McDowell
Phoenix
RYERSON, PAUL M.
1505 E. McDowell
Phoenix
SANDERS, ZACK W.
330 W. McDowell
Phoenix
SCHNABEL, GARFIELD P.
Magma Hospital
Superior
SCHOFFMAN, WILLIAM F.
316 W. McDowell
Phoenix
SCHROEDER, WILLIAM F.
926 E. McDowell
Phoenix
SHEMBAB, CECILIA H.
316 W. McDowell
Phoenix
SHERILL, WALTER P.
342 W. McDowell
Phoenix
SHUPE, REED D.
1103 E. Culver
Phoenix
SIEGAL, HENRY A.
15 E. Monroe
Phoenix
SINGER, PAUL L.
1313 N. 2nd St.
Phoenix
SMITH, LESLIE B.
926 E. McDowell
Phoenix
SMITH, ROBERT D.
926 E. McDowell
Phoenix
SNAPP, ROBERT H.
15 E. Monroe
Phoenix
SNYDER, BERTRAM L.
15 E. Monroe
Phoenix
SOBOL, JACOB M.
801 N. 2nd Ave.
Phoenix
SOLOMON, DAVID M.
123 South 3rd
Phoenix
STEFFENS, HENRY J. J., JR.
801 N. 2nd Ave.
Phoenix
STERN, MORRIS E.
1313 N. 2nd St.
Phoenix
STEVENS, ROBERT H.
1313 N. 2nd St.
Phoenix
STEVENSON, ARTHUR C.
7 W. McDowell
Phoenix
STOLFA, LADDIE L.
926 E. McDowell
Phoenix
STUMP, ROBERT M.
3301 W. Van Buren
Phoenix
SULT, CHARLES W.
15 E. Monroe
Phoenix
SULT, CHARLES W., JR.
15 E. Monroe
Phoenix
SUSSMAN, MARCY L.
800 N. 1st Ave.
Phoenix
SWASEY, LLOYD K.
15 E. Monroe
Phoenix
SWENSON, ALVIN L.
1313 N. 2nd St.
Phoenix
THAYER, KENT H.
1313 N. 2nd St.
Phoenix
THOENY, OSCAR W.
1313 N. 2nd St.
Phoenix
TOLAND, VIRGIL A.
509 W. McDowell
Phoenix
TOMPKINS, LUCIAN M.
Gilbert
TRUMAN, GEORGE C.
54 S. Center
Mesa
TUTHILL, ALEXANDER M.
15 E. Monroe
Phoenix
TUVESON, LEO L.
800 N. 1st Ave.
Phoenix
URRY, AUDREY G.
6540 N. 14th St.
Phoenix
VAN EPPS, CHARLES E.
1313 N. 2nd St.
Phoenix
VERNETTI, LUCY A.
543 E. McDowell
Phoenix
VIVIAN, CHARLES W.
412 W. Roosevelt
Phoenix
WALL, MARK H.
206 E. Main
Mesa
WALTON, ROBERT E.
4029 N. 15th Ave.
Phoenix
WARD, JAMES P.
State Dept. of Health
Phoenix
WARRENBURG, CLARENCE S.
926 E. McDowell
Phoenix
WASKOW, ELEANOR A.
412 W. Roosevelt
Phoenix
WATKINS, W. WARNER
15 E. Monroe
Phoenix
WEST, OSCAR C.
710 E. Culver
Phoenix
WESTERVELT, MARCUS W.
217 E. 7th St.
Tempe
WHITELAW, M. JAMES
412 W. Roosevelt
Phoenix
WICKS, WILLIAM J.
307 W. McDowell
Phoenix
WILKINSON, H. FIELDING
39 W. McDowell
Phoenix
WILLIAMS, HENRY G.
926 E. McDowell
Phoenix
WILLIAMS, ONIE O.
St. Joseph's Hospital
Phoenix
WILLIAMSON, GEORGE A.
800 N. 1st Ave.
Phoenix
WILMOTH, THOMAS C.
2922 N. 16th St.
Phoenix
WOERN, WILLIAM H.
15 E. Monroe
Phoenix
WONG, EDWARD C.
316 W. McDowell
Phoenix
WOOD, HAROLD
Good Samaritan Hosp.
Phoenix
WOODMAN, THOMAS W.
800 N. 1st Ave.
Phoenix
WORMLEY, LOWELL C.
1202 E. Washington St.
Phoenix

MOHAVE COUNTY

SARNES, BRODA O.
Kingman
BRAZIE, WALTER
Kingman
FINDLAY, FRANCIS M.
Kingman
LEWIS, CHARLES J.
Davis Dam, Nevada
ORLANDO, WILLIAM F.
Kingman

NAVAJO COUNTY

BECKWITH, HARRY S.
Winslow
DeMARSE, DONALD F.
Holbrook
LEWIS, LEO L.
Winslow
PETERSON, CLAUDE H.
Winslow
POTTHOFF, HERBERT B.
Holbrook
WRIGHT, MYRON G.
Winslow

PIMA COUNTY

ALLEN, FRANCIS W.
18 E. 3rd St.
Tucson
ALTSHULER, SAMUEL S.
Veterans Administration Hosp.
Tucson
ATHA, HENRY G.
1901 N. Campbell Ave.
Tucson
ATWOOD, HARRY D.
Ajo
BAKER, KENNETH C.
729 N. 4th Ave.
Tucson
BALDWIN, EARL R.
110 S. Scott
Tucson
BALLARD, SIDNEY W.
828 N. Tyndall St.
Tucson
BARGER, JAMES D.
Maricopa County Hosp.
Phoenix
BARITELL, HARRIET S.
1641 N. Tucson Blvd.
Tucson
BATES, RAYMOND R.
4 E. Congress
Tucson
BEAN, FRANCIS J.
Pima County General Hosp.
Tucson
BEATON, LINDSAY E.
1650 N. Campbell Ave.
Tucson
BENNETT, JOHN K.
721 N. 4th Ave.
Tucson
BENSEMA, CLARENCE E.
1800 E. Speedway
Tucson
BERNSTEIN, DENNIS
602 N. 4th Ave.
Tucson
BLEDSOE, N. C.
85 Camino Espanol
Tucson
BLOOM, BENSON
1641 N. Tucson Blvd.
Tucson
BOCK, RAYMOND F.
721 N. 4th Ave.
Tucson
BOONE, GEORGE D.
601 E. 6th St.
Tucson
BRADY, THOMAS A.
Hayden
BRAINARD, HOLLIS H.
2440 E. 6th St.
Tucson
BROWN, EARL H.
130 S. Scott
Tucson
BURR, SHERWOOD P.
43 E. Jackson
Tucson
CARRADA, LUIS N.
175 E. 12th St.
Tucson
CARRELL, WILLIAM D.
123 S. Stone
Tucson
CARRERAS, MIGUEL
130 S. Scott
Tucson
CLOSSON, ESTHER M.
4 E. Congress
Tucson
CLYNE, MEADE
110 S. Scott
Tucson
COCHRAN, HIRAM D.
110 S. Scott
Tucson
COGSWELL, HOWARD D.
2440 E. 6th St.
Tucson
COHEN, MORRIS D.
1534 E. Speedway
Tucson
COSTIN, MAX
602 N. 4th Ave.
Tucson
DAVIS, JAMES W.
33 E. Broadway
Tucson
DeYOUNG, GEORGE M.
2613 E. Helen St.
Tucson
DIXON, GEORGE L.
744 N. Country Club Road
Tucson
DONAHUE, JOHN L.
4 E. Congress
Tucson
EDWARDS, BRYANT B.
521 E. 3rd
Tucson
ENGLE, DAVID E.
1619 N. Tucson Blvd.
Tucson
FARNESS, ORIN J.
721 N. 4th Ave.
Tucson
FLOOD, CLYDE E.
4 E. Congress
Tucson
FRASER, GEORGE
620 N. Country Club Road
Tucson
FULLER, RALPH H.
St. Mary's Hospital
Tucson
GERTNER, JOSEPH
3943 E. Broadway
Tucson
GOLDBERGER, MILTON
614 N. 4th Ave.
Tucson
GOTTHELF, ED J.
4 E. Congress
Tucson
GRAUMAN, SAMUEL J.
403 E. 5th St.
Tucson
GREGG, FRED C.
41 E. Jackson
Tucson
GREGG, HAROLD J.
41 E. Jackson
Tucson
GRIESS, DONALD F.
721 N. 4th Ave.
Tucson
HARTMAN, GEORGE O.
20 E. Ochoa
Tucson
HASTINGS, ROBERT E.
1811 E. Speedway
Tucson
HASWELL, HOWARD P.
1423 E. Sixth St.
Tucson
HAUSMANN, RICHARD K.
110 S. Scott
Tucson
HAYDEN, EDWARD M.
23 E. Ochoa
Tucson
HAYHURST, DARRELL E.
1717 E. Speedway
Tucson
HEIM, DELMER J.
110 S. Scott
Tucson
HEWITT, ROY
110 S. Scott
Tucson
HILEMAN, WALTER T.
23 E. Ochoa
Tucson
HILL, DONALD F.
2430 E. 6th St.
Tucson
HIRSCH, LOUIS
Tucson Medical Center
Tucson
HOLBROOK, W. PAUL
2430 E. 6th St.
Tucson

JAMES, HOWARD C.
620 N. Country Club Road
Phoenix
KENT, LEO J.
437 N. Tucson Blvd.
Tucson
KINKADE, JOSEPH M.
123 S. Stone
Tucson
KITT, W. STANLEY
4 E. Congress
Tucson
KLEIN, JACK
2219 S. 6th Ave.
Tucson
KOHL, HAROLD W.
1002 N. Country Club
Tucson
KOLINS, NATHAN S.
415 E. 5th St.
Tucson
KOSANKE, HAROLD E.
110 S. Scott
Tucson
KUHLMAN, CLARENCE H.
721 N. 4th Ave.
Tucson
LAIDLAW, ELIZABETH H.
2422 E. Helen
Tucson
LAMB, HAROLD L.
80 S. Stone Ave.
Tucson
LEMMLE, MALWINA T.
525 E. Speedway
Tucson
LESEMANN, FREDERICK J.
1627 N. Tucson Blvd.
Tucson
LEWIS, DONALD B.
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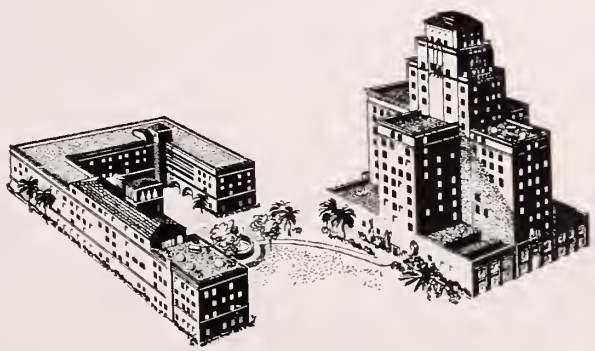
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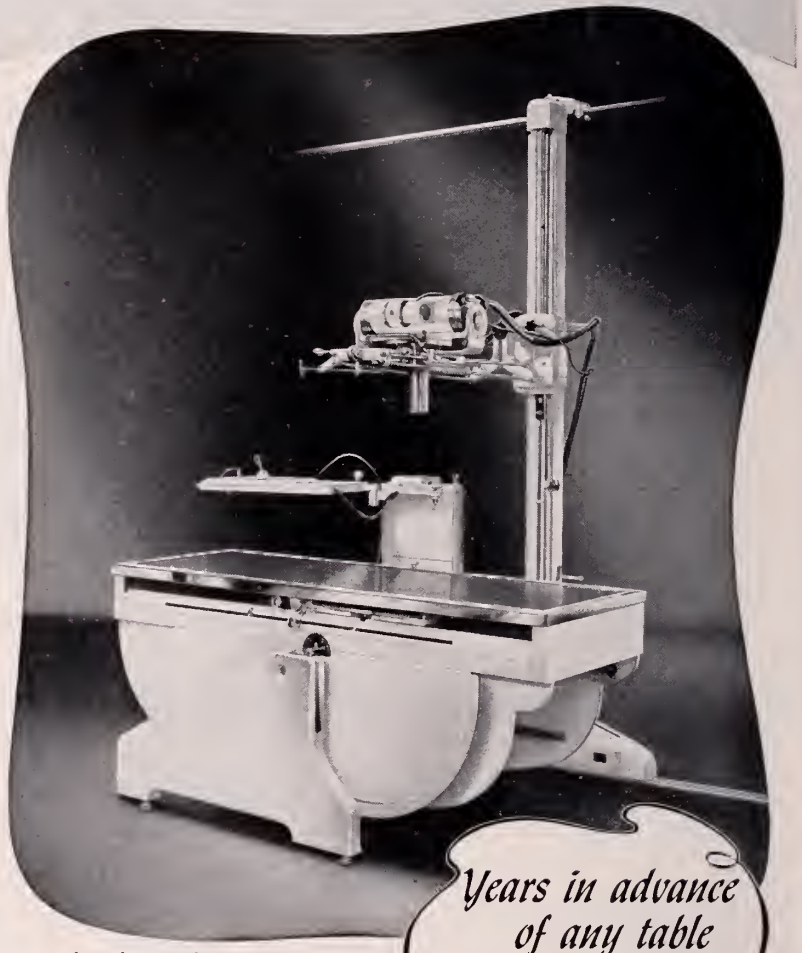
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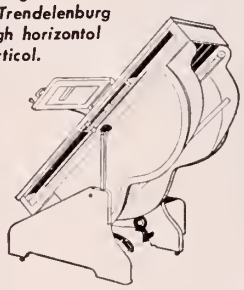
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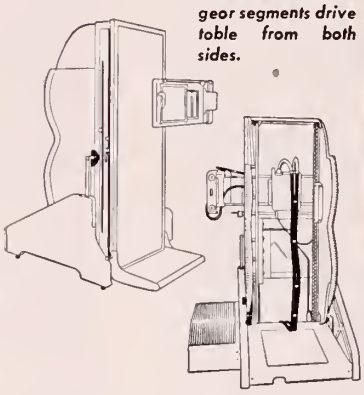
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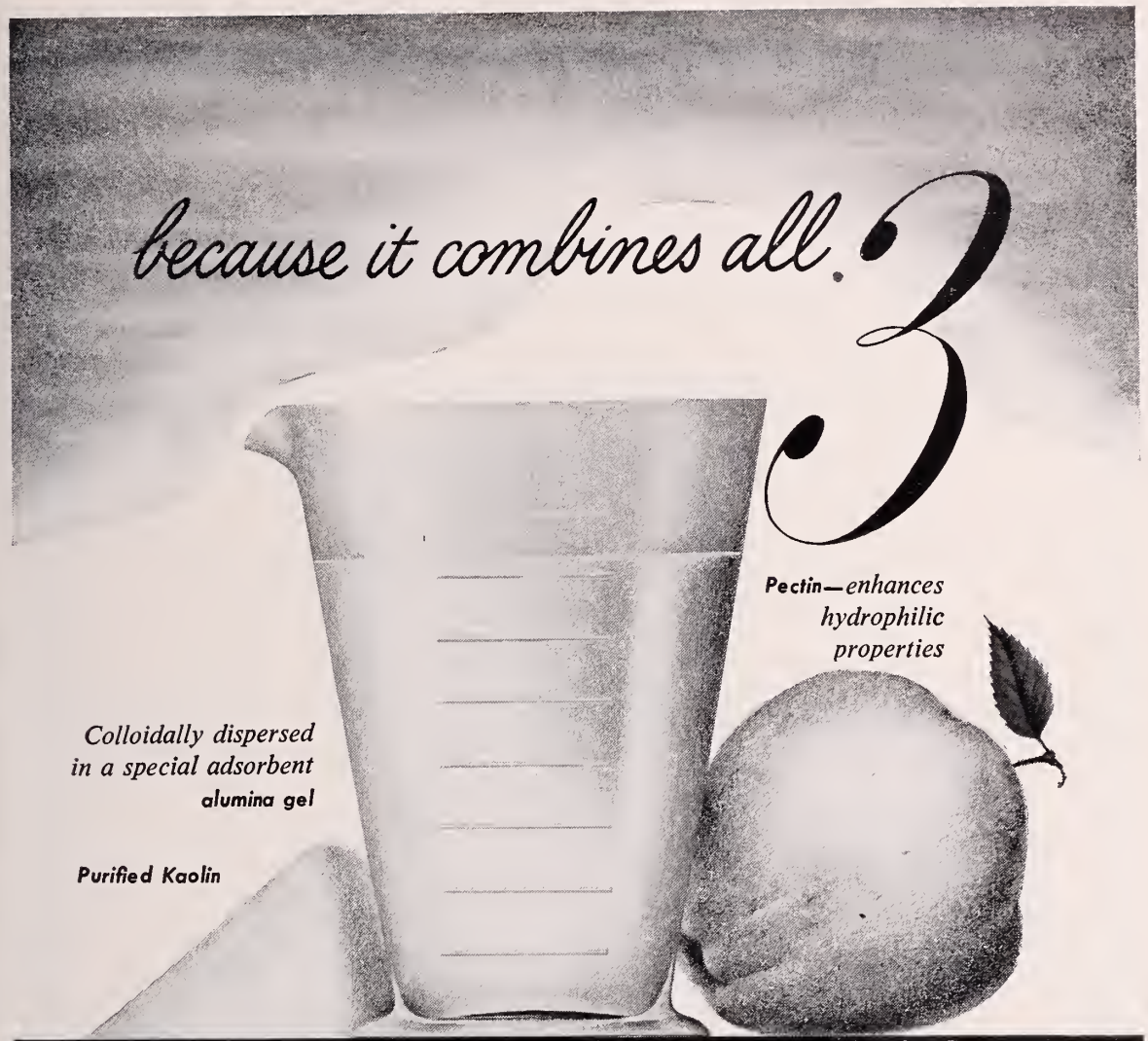
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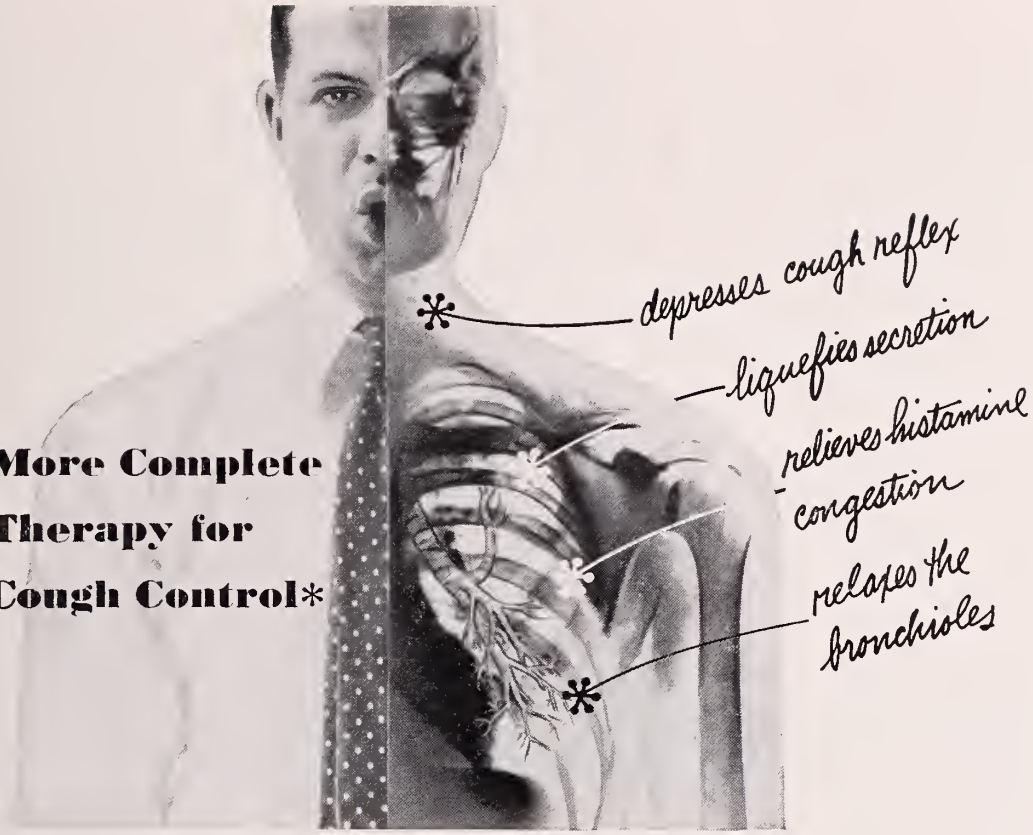
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However, at the present time, the claims, in spite of the ballyhoo, are really very modest. Hadacol, attacks, according to its makers, "illnesses due to the lack of Vitamin B-1, B-2, Iron, and Niacin in the system." While this product has been able to finance the greatest medicine show of all times, a show featuring such radio and screen personalities as Mickey Rooney, Roy Acuff and his Smoky Mountain Boys, Connie Boswell, Minnie Pearl, Burns and Allen, Chico Marx, and Carmen Miranda and her rhumba band, the greatest aid to its sale has been the sterling testimonials from those benighted sufferers from the varied self-diagnosed ailments.

"MINOR LEAGUES"

Testimonial letters have always been rather easy to obtain, and, while those written supporting the claim of this miraculous Louisiana rejuvenator are, let us say, moderately good, they are essentially in the terms of the vernacular, in the "minor leagues" as compared with testimonials rendered to a product as "Kajeeb Brjwmn" or "Grand Imperial Renovator". Here, gentle readers, we have a real preparation. It must be granted, however, that in the early part of the 19th Century in the years of 1825 to 1837, the Federal Trade Commission did not exert any influence. Had it, perhaps, this sterling mixture would not have gained its vast popularity.

Kajeeb Brjwmn[1] was described as "a mild vegetable compound", and was said to be "accidentally discovered by a Baratarian lunatic in a lucid interval while searching for birds' nests in a mangrove swamp". At least we must all admit that the method of discovery was not only unique, but honest. This medication was really efficacious, and while the proponents of Lydia E. Pinkham's Compound and Hadacol have made some rather lurid claims as to the efficiency of their products, these claims could not approach the claims made for Kajeeb Brjwmn. The patient did not really have to swallow this preparation. He merely had to look at it, rub it on his nose, or strange as it may seem, have its name shouted in his ear. For proof of this, the following testimonials are offered:

NOISY CURE

"Dear Doctor — I was stone blind for sixteen years, and tried the Thompsonian medicines, from numbers one to twenty and got worse — of course. Bought a bottle of your invaluable medicine, and by merely looking at it, was restored to sight immediately. Your grateful friends." James Stone, Laputa, Nov. 5, 1825."

"My Dear Von Humbus:—Some ten years since, I was so unfortunate as to catch the "mania-a-potu" which united with that worst of contagions, the "brandreth-phobia" continued to delude my system in an extraordinary degree. From the combined effects of these two epidemicks, I have been in the same hospital forty-nine times. Cured by my wife shouting six times in my ear 'kajeeb brjwmn'." A. C. Dewberry, M. D., Philadelphia, January 9, 1837."

"Dear Doctor—About twenty years ago I had my shoulder dislocated by a stroke from a lion, and with all the exertions of our doctors, I could not get it reduced. Though I took the hygeian medicines, I suffered extremely until within a year. I bought the 'kajeeb brjwmn', and was immediately cured by running the contents of one bottle on the end of my nose. Gratefully yours, etc." James Gull, Cafraria, July 25, 1829."

SITUATION ACUTE

In these turbulent days when the proponents of socialized medicine, literally scream that the health of the country at large is deteriorating, and point out that approximately 50 per cent of our youth have been rejected for the draft, and when, in the sovereign state of California, an 84-year-old female sues her husband for annulment and claims that he obtained her consent to marriage by fraud and then failed in his husbandly duties, the situation becomes acute, and the only answer that our present patent medicine men render is simply the prospect of a parrot riding around the country in a limousine squawking "Polly wants Hadacol". Our legislators have appropriated money to investigate very many projects. It would not be surprising, if the bureaucrats were acquainted with this sterling product, that they would hie themselves to the rolling hills of the Pennsylvania Dutch country and attempt to discover the formula of Kajeeb Brjwmn, and thereby settle, once and for all, the problem of our nation's health.

(1) THE PIONEER GAZETTE, Vol. 1, No. 10, August 1950, 29 Worthington St., Springfield, Mass. — "The New York Mirror — 1837."

PEDIATRICS

Chloramphenicol In Whooping Cough: Report On Five Severe Cases

Macrae, J., Lancet 1:400, 1950

Administration of Chloromycetin to five severely ill pertussis patients effected immediate improvement and rapid recovery. Patients were given an initial dose of 0.25 Gm. followed by 0.125 Gm. every six hours for seven days, and 0.125 Gm. every twelve hours for an additional seven days.

ST. ANN'S HOSPITAL IN TRUTH OR CONSEQUENCES



St. Ann's Hospital in Sierra County, N. M.

St. Ann's Hospital (formerly Virginia Ann Clinic and Hospital) of Truth or Consequences, N. M., was leased by the Sisters of the Sorrowful Mother (a Wisconsin corporation) Sept. 1, 1948, from Mrs. La Rue Brown and Mr. H. A. Collins.

The hospital is located near Highway 85 almost in the heart of the city of Truth or Consequences. It is a small general hospital of surgery, medicine, pediatires and obstetrics with a capacity of 34 beds and six bassinetts.

The hospital has all modern facilities and is well equipped with X-ray, clinical laboratory, surgery and gas machine for anesthesia and resuscitator and incubator in the obstetrical department.

It has a fine medical staff of five physicians with a hospital staff of eight sisters, registered in their respective departments, assisted by graduate nurses and helpers.

It is one of the best and finest hospitals in Southern New Mexico.

Constipation Relieved By Carboxymethylcellulose

Based on a study of 250 patients observed over a three year period, Schultz reports in the *American Journal of Digestive Diseases* (16:319, 1949) that sodium carboxymethylcellulose affords effective relief of constipation. He found that patients with average constipation had normal bowel movements after one to three days of treatment and those with chronic constipation returned to normal after six to ten days of treatment.

Sodium carboxymethylcellulose was administered to the group in the form of powder at the inception of treatment and was later given in tablet form. Most patients received a dosage of two to five 0.75 Gm. tablets in the morning and at night. The dosage was then reduced after a few weeks from one to two tablets three times a day.

No intestinal impaction was noted even though some of the patients took the preparation for many months. Normal stools were observed in cases of diarrhea following treatment, leading the physician to conjecture that sodium carboxymethylcellulose possessed an apparent ability to absorb irritating toxins from the intestinal tract.

According to Schultz, this laxative has the following advantages: it is completely non-toxic; does not produce roughage which is irritable to patients with spastic colon, hemorrhoids or proctitis; resquires low dosage; possesses lubricating properties; is tasteless and ordorless; does not interfere with the absorption of essential nutritional elements; and does not absorb fat-soluble vitamins from the intestinal tract.

Chloromycetin in Rocky Mountain Spotted Fever

In the 15 patients reported by Pincoffs, Guy, Lister, Woodward and Smadel,[10] the diagnosis of Rocky Mountain spotted fever (eastern) was confirmed by one or more of the usual laboratory diagnostic procedures. The initial dose of Chloromycetin was large, 75 mg. per Kg. of bodyweight, being administered in two or three parts at about one-hour intervals. Then, every three hours, day and night, children under 16 years (10 cases) were given 0.25 Gm.; older patients were given 0.5 Gm.

Symptoms showed steady, though not striking improvement in the first twenty-four hours; but on the second day, headache, mental dullness, and similar symptoms were clearly lessened. Most dramatic evidence of Chloromycetin's therapeutic effectiveness was the temperature chart which showed a drop to normal levels in all cases within seventy-six hours of the initial dose. The average pretreatment duration of fever was about nine and one-half days as compared with sixteen days for a typically representative control group. Duration of fever, after beginning treatment averaged 2.2 days. In this series, there was no recurrence of the disease when treatment was discontinued after twenty-four hours of normal temperature.

10. Pincoffs, M. C.; Guy, E. G.; Lister, L. M.; Woodward, T. E.; & Smadel, J. E.: The Treatment of Rocky Mountain Spotted Fever with Chloromycetin. *Ann. Int. Med.* 29:656, 1948.

De Rebus Medicis Et Politicis

BY ROBERT B. HOMAN, JR., M. D., EL PASO, TEXAS
MEMBER OF THE HOUSE OF DELEGATES OF THE AMERICAN MEDICAL ASSOCIATION

"REASON HAS NEVER FAILED MEN"

William Allen White, the late Kansas editor, was a profound believer in America and its way of life. Some of his writings are powerful contributions to our contemporary ideals and beliefs. A perfect example is this portion of an editorial from his pen, written in 1922.

"Put fear out of your heart. This nation will survive, this state will prosper, the orderly business of life will go forward if only men can speak in whatever way given them to utter what their hearts hold — by voice, by posted card, by letter or by press. Reason never has failed men. Only force and oppression have made the wrecks in the world".

How better can the strength of Freedom of speech, Freedom of the press, the right of petition be expressed? How better can the results of these Freedoms be defined? **Reason never has failed men!** Free men have the right to reason. They have the right to express the results of such reasoning and to vote their convictions.

DEMOCRATIC BOOKLET

It is, therefore, fitting that there should come to the hands of the writer a booklet entitled "Administration Health Plan" — subtitled "A Training Kit for Leaders" — published by the Democratic National Committee. This booklet is receiving widespread distribution to local leaders of the Democratic Party, labor leaders, and others. It is the rebuttal of the Democratic Party and the Truman Administration to the medical profession's fight against compulsory health insurance. Whether it represents the majority opinion of the Democratic National Committee or not is of little consequence. The point is that the issue of Compulsory Health Insurance is dominant today, and even if this booklet represents a minority, that minority has a right to be heard. If that minority consists of known social and economic planners and even of socialists, freedom of expression is open to them.

The premise of the action of the Democratic National Committee in endorsing the President's Health Insurance program is contained in these words — "In order to avoid socialized medicine in the United States, we endorse the President's program for broadened Federal activity in the entire field of health and medical care and the adoption of a pay-as-you-go insurance program to put better medical care within the financial reach of all Americans".

SOCIALISM DEFINED

Let's use some of Mr. White's "reasoning" on this play of words! The reader of this booklet is supposed to believe that socialized medicine will be avoided by the adoption of a nationalized system of medicine called by another name! How illogical can you get? Socialism, simply defined, is a political or economic theory of social organization based on governmental ownership and management of the essential means for the production and distribution of goods and services. In this case the "goods and services" provided are medical care, hospitalization, drugs, etc. We are expected to believe that we are avoiding socialism by accepting socialism!

It is further stated in the premise that a "pay-as-you-go insurance program" is the answer to the distribution of better medical care to all Americans. Is it possible that the Democratic Party, which has not balanced the national budget in many years, and has accumulated an unbelievable national debt, can expect the people to believe that anything it does can be done on a "pay-as-you-go" basis? The truth is that "you pay **and** you go" — to socialism or worse. The contents of the booklet itself are roughly divided into two parts: First, most Americans cannot afford medical care but government will provide it. Second, a slanderous attack on the American medical profession.

FIRST DIVISION

The first division states simply that "the dollar bill stands like a barrier between most of us and our doctors and hospitals". This beneficent party proposes to take the $ out of $ICKNE$$. (How's that, gentlemen?) Well, here is an administration which daily, weekly, monthly, and annually brags about how its inflationary prosperity has increased wages, purchasing power, national income — general prosperity, and then turns around and states emphatically that these same people — so benefitted by the party — are unable to pay a bill for medical care. Is that logical? Would these worthy gentlemen admit that there are some people in America who could not afford subsidy supported potatoes? You guess! Would they suggest that the $ be taken out of the taxe$ that support all of the economic planning in which they indulge? The American family is having more difficulty paying its taxes than in meeting its medical expenses.

Again a quote — "Under today's hap-hazard way, each family's health depends upon its wealth". This is a crack at "hap-hazard" free enterprise! This booklet did not say that under "today's hap-hazard way" each family's lodging, automobile, savings, food budget, clothing, comfort, recreation, and standard of living "depends upon its wealth". Those are things to be taken care of in the future — after our benefactors have paid our medical bill. The only thing "hap-hazard" about free enterprise today is the administration that is trying to control it. The propaganda organ promises that doctors will remain free — they do not have to join the "plan", knowing full well from experience in other countries that the individual doctor will be starved into line. The planners promise, for the benefit of church owned hospitals, that the government will not "take over" the hospitals. The truth is that it would be impossible for government control of hospitals to be avoided!

SECOND PORTION

In the second portion of this "guide to leaders", the American Medical profession, the A. M. A. and individual doctors are castigated for their "backward tendencies". The A. M. A. Educational Campaign is denounced. This, of course, is a direct attack on the "right of petition", which has been so ably defended by every great statesman in the history of America. The money raised for this campaign is characterized

(Continued on Page 372)

"FOLLIES" TO AID CEREBRAL PALSY CLINIC

The Planning group of the Junior League of El Paso announced that "The Follies of '50" will be held in Liberty Hall on November 17.

This is to be the biggest money raising project given by the group since the last Follies were presented in the Spring of 1941. "The Follies of '50" is to be produced by the Miles-Caven Production Co., and the producer is to be Mr. Jack Caven. He is bringing all the scenery, costumes, and the original music. In his words "I'm bringing Broadway to El Paso".

The need for a large money raising project was explained by Mrs. Paul Luckett, president of the group, with the Junior League assuming partial financial responsibility of the Cerebral Palsied Clinic. The group has given $7,500 towards new housing for the clinic, and there is the need for further funds to continue to finance their present programs.

$59,236 GIVEN

The Junior League of El Paso was started by 10 local women in 1930 and it now has an active membership of 105 members. In the past 18 years it has given $59,236 to programs and projects that it has sponsored. Money derived from the community by money raising projects goes back into the community in the form of various welfare programs.

Junior League members give an estimated 15,000 volunteer working hours per year in their regular volunteer jobs and donate their services to all local charity drives.

Some of the outstanding current programs of the Junior League of El Paso are the Young People's Symphony Concerts, heard yearly by over 8000 El Paso Students, and the Children's Theatre, a favorite among El Paso school children, which reached over 11,000 children this past year and League members trouped 21 Performances.



Leaders in putting on "The Follies of '50," sponsored by El Paso Junior League, are: (standing left to right) Mrs. Tom Donaldson, Mrs. William Massey and Mrs. Elliott Shapleigh. (seated) Mrs. Paul Luckett, Jr., and Mrs. Thomas Birmingham. Proceeds of the revue will go to El Paso Cerebral Palsy Clinic.

COMMITTEES NAMED

Mrs. Thomas Birmingham, the ways and means chairman of the group, has announced her planning group, which includes the following:

Talent — Mrs. Paul Luckett and Miss Betty Ruth Williams.

Cabaret — Mrs. Elliott Shapleigh and Mrs. Fred McKinstry.

Patroness — Mrs. Charles Leavell and Mrs. Dan Ponder.

Tickets — Mrs. Delphin von Briesen and Mrs. William Snow.

Costumes — Mrs. John Neff and Mrs. Harrison Hughey, Jr.

Properties — Mrs. Donald Johnson and Mrs. Scott Wilkey.

Program and Advertising — Mrs. Charles Gabriel and Mrs. Tom Donaldson.

Make-Up — Mrs. William Crombie.

Publicity — Mrs. William Massey and Mrs. Jess Lochausen.

Progesterone Carries Pregnancies To Term

Large doses of progesterone administered to nine pregnant women with low pregnandiol levels and susceptibility to abortion resulted in normal deliveries in four (45 pre cent), report Guterman and Tulsky in the *American Journal of Obstetrics and Gynecology* (58:495, 1949).

The group on whom this investigation was carried out consisted of nine patients who were given from 80 to 120 mg. progesterone intramuscularly every day, and four patients who were given intramuscular injection of peanut oil and who served as controls. Abortion occurred in all the controls within four to five days after starting the tests; whereas four of the nine treated patients carried to term. According to the authors, although this series of cases was small, the results would suggest further tests with progesterone in suitable cases.

In a previous study of 335 patients with threatened abortion, these authors found that 191 had normal pregnandiol excretion. About half received progresterone. No obvious difference was observed in the incidence of abortion in the treated and untreated cases.

Of 144 patients with reduced pregnandiol levels, 38 were treated with progesterone in the amount of 1 to 25 mg. daily and the remainder received no medication. The precentage of abortion was 97 per cent for both groups.

It would appear from these studies that in pregnant women with reduced pregnandiol levels and a previous history of spontaneous abortion, the administration of large amounts of progesterone may result in a normal pregnancy.

OFFICE UROLOGY*

By Elmer Belt, M. D., Los Angeles, Calif.

The science of urology as a specialty had its beginning with the designing of the cystoscope. It was in 1889 that the American surgeon, Tilden Brown, created a cystoscope which would permit clear visual examination of the bladder with the aid of a water irrigation system, a telescopic combination of lenses and Edison's cold electric lamp. A striking innovation in Brown's instrument was a telescopic sheath which carried with it two catheterizing channels which would guide catheters into the ureteral orifices under vision through the lens system thus permitting the sure collection of divided urines, an uncontaminated specimen from each kidney.

Here the science of urology began. It is the skillful use of this instrument and its successors which enabled men to exercise an especial adaptation in the study and handling of diseases of the genito-urinary tract.

The special worker, who had diagnosed the malady from which a given patient suffered, because of his particular interest in the problem, came to be the individual who had the most knowledge of it. Hence to him fell the responsibility of carrying out surgical relief when a surgical operation was indicated. In many cases constant watchfulness and further treatment of the damaged tract by means of special instruments had to follow as well as to precede operations upon the genito-urinary tract. So it became obvious, to the patient at least, that the man who knew how to handle the all-seeing instrument was the principal one who was to make him well.

X-RAY IMPROVED

As soon as the design of the X-ray machine improved to the point at which it became useful in determining kidney outlines and the presence of stone, the cystoscopist and the roentgenologist became dependent upon one another in the study of genito-urinary diseases.

A chapter in the study of the individual suffering from trouble in the genito-urinary tract, which threatened for a time to take him away from the cystoscopist, was the discovery by Zwick and Von Lichtenberg of a dye which could be given intravenously and would reveal to the roentgenologist the contours of the urinary tract without the aid of ureteral catheters placed by the cystoscopist. It took time for all to learn that the method of intravenous pyelography unaided by instrumentation led to many diagnostic errors which could have been prevented with the aid of a correlated cystoscopic study.

So the man trained in the use of the cystoscope as a diagnostic instrument continued to be the man who held a position closest to the patient, the one upon whom the patient most depended for help in this class of disease. Hence urology grew into being as a surgical specialty not alone because the cystoscopic study itself is a surgical procedure demanding surgical cleanliness but also because to the urologist fell the responsibility of operating surgically upon genito-urinary tract lesions which could not adequately be treated by means of the cystoscope. The urologist must be well trained to fill this wide responsibility which the patient himself places upon him. He must be clever at manipulating the many visual instruments which he has inherited, but he should also contribute his share of innovations to this field both while he is actually at work for the instant relief of the suffering patient and afterward in his shop as the creation of the moment is worked into final shape for the use of all.

OPEN SURGICAL PHASES

The open surgical phases of his work are no less interesting and demanding than is the use of the cystoscopic instrument. Even the earliest of surgical approaches are constantly being modified, simplified and made more adequate and less productive of surgical shock.

In the earliest phases of his work, historically, the genito-urinary specialist had to make on-the-spot determinations of the nature of the bacterial or parasitic invader for Public Health reporting, as well as for diagnostic purposes to inform the patient himself. He became adept at recognizing the microbic invaders of his field through the use of the Gram's stain, the dark field and the immediate use of simple culture media to separate those organisms capable of fermenting sugars from those which did not produce fermentation. It was important, too, to know of the presence of facultative anaerobes.

ACCURATE DIFFERENTIATION

Today the elementary separation of organisms which yielded to these simple measures is being replaced by a need for more accurate differentiation. This change has been brought about by the discovery and production of a long list of expensive antibiotics and useful bactericidal and bacteriostatic substances which can be used as specific antagonists to invading bacteria within the body of the patient. Indeed, in surgical procedures the body's needs may be anticipated and the dangers of the post-operative bacterial invaders can be predicated and planned against. Thus the various methods of closure of prostatectomy wounds without drainage or with drainage of a very simple sort have come into use because the efficiency of the antibiotics is so great that per primam healing in such cases through their use is now possible. Closure may even be dared in massive procedures such as one stage cystectomy with ureteral transplantation into the bowel, if the bowel's flora have been controlled with the agents presently available and if mechanical drainage of the bowel's contents through the nasal tube of Miller-Abbott is properly instituted.

The urologist's office in its appearance and equipment has reflected his possession of an ever-widening armamentarium of surgical skills and office procedures.

ANCIENT ALLIANCE

Due to his ancient alliance with venerology even the occupants of his waiting room differ now in appearance from those of earlier days. The old use of quantities of potassium permanganate solution and silver nitrate blackened the urologist's sinks no matter how sparklingly white they and his hopes were at the start. As the mode changed through the brilliant yellow neutral acriflavine to Young's all pervading mercurochrome, with its fast red which clung to everything it touched, the treatment room became rainbow-hued. Few such dyes are still considered useful. Silver nitrate, the earliest possession, still is found ready to every urologist's hand. Its tell-tale stains of black metallic silver deposits reveal its constant use.

The modern urologic office can be neat and attractive in its appearance. The extent of the work-up of each patient carried on within the office itself de-

*An Address to the Southwestern Medical Association Conference and the New Mexico Division of American Cancer Society, 10 November, 1949.

termines the amount of equipment which accrues.

In this highly mechanical specialty much is expected of the doctor by both the patient and the referring physician. With proper organization much can be accomplished in a very short time.

All important is the history and general physical examination. Here leads will develop which must not be lost sight of as the search for trouble goes on. It is an error to presume that because another physician has been in attendance these two important duties and opportunities of the new doctor should be overlooked. The new man with a fresh viewpoint may uncover extremely important facts which the patient himself thought too unimportant to mention in the history and which were overlooked in the physical examination.

IDEA FIXATION

Routine of any kind is apt to be the product of a fixation of ideas. Of all fields of human effort there is least room for fixed opinion in the science of medicine. Yet routine procedures are useful because they tend to prevent important omissions. Of these routine procedures in urology the flat X-ray plate of the abdomen stands next to the physical examination in yielding productive information. Much can be learned from it.

The flat X-ray plate of the abdomen should be clear enough to reveal the size and shape of each kidney. Each psoas shadow should clearly be visible. It should include a clear view of the entire bladder area at the bottom of the film and the region just above each kidney at the top. If retakes for bladder or kidney areas are found necessary and smaller films are selected for use, the target and film should remain in the identical position which would be adopted if the large film were used. It is a technical error to move the target downward to take a bladder film or upward to X -ray a selected kidney area.

The urine examination should include specific gravity, sugar, albumin and pH. It should yield an expression of the number of white and red cells, of the epithelial debris and of casts. The bacterial content should be seen by high-power inspection of a wet mount to determine motility of the organisms and to allow the familiar trichomonas to be seen. It should be viewed also through oil immersion inspection of the Gram's stained sediment to allow morphological and stained differentiation of the organisms to be recognized. The prostatic secretion should be inspected in the same way. Urine specimens for microscopic examination from women should be catheterized specimens.

FINDINGS

Findings, as they accumulate, determine the direction which further examinations must take. In a very large portion of the patients who have been referred to the urologist's office for study the following procedures are necessary: Intravenous pyelograms, an instrumental cysto-urethroscopic study, the collection of specimens for Grams and culture, from the bladder and from each kidney together with retrograde pyelograms, taken both in the horizontal position and standing, in those cases in which the flat plate of the abdomen and the intravenous pyelograms have not given adequate information.

The screening of patients who reach the urologist, both through other urologic patients who have referred them and by referring doctors, is usually so complete and accurate that the urologist seldom finds himself in the presence of a non-urologic new patient. The responsibility to the urologist of finding and revealing the troublesome urologic lesion is great. It is unpardonable for the urologist to overlook a urologic lesion.

The extent to which the urologist may proceed within his office in both treatment and investigation will vary widely depending upon the well-being of the patient, the availability of hospital beds in a given community and upon the office equipment and personnel with which the urologist surrounds himself.

EXACTING SPECIALTY

In so exacting a specialty as urology, urologists have found that working in a pair or in teams is so great an advantage that the practice is almost a rule. Thus skilled help is immediately available and larger procedures may be carried out than are safe in the one-man office. The doctors may spell one another in giving the easily administered pentothal or caudal anesthesias, for the greater comfort of their patients. Greater patient volume allows the hiring of trained technical help both for the general laboratory and the X-ray laboratory within the unit. In such well-organized offices retrograde pyelography as well as intravenous urography may be carried out saving many patient hospital days and much unnecessary loss of time. Those procedures for the determination of renal function levels such as the intravenous phenolsulphonphthalein test, the urea clearance test and the Addis test can accurately and safely be carried out as office procedures matching the laboratory technician's time against the time available to the patient who is a busy person also. It is an added safe-guard to the patient to have these tests done in a urologist-supervised laboratory.

CLOSE COOPERATION

Ephraim Shorr has taught us that the close cooperation of the laboratory with the urologist in the study and control of the stone former's phosphorus metabolism prevents the new formation of many phosphate stones after their surgical removal. Charles Huggins has shown us the need of testing for the enzymes, Acid and Alkaline phosphatase in our relentless battle against carcinoma of the prostate in the aged male.

As gynecologists and obstetricians who are interesting themselves in the problems presented by infertility come to realize that it takes a man as well as a woman to make a baby, a greater and greater number of husbands of the infertile pair are referred to the urologist for investigation. Great satisfaction comes to the urologist and gynecologist working together in bringing to a successful conclusion the management of an infertility problem in a youthful pair.

PROCREATIVE EFFICIENCY

Much of the work of estimating the procreative efficiency of the male can be carried out in the urologist's office. A step-by-step routine of investigation and inquiry is advisable. The careful history should include a survey of the patient's family and the degree of fertility shown by his immediate relatives. The number of children in each of his parents' families should be determined, as well as the fertility of each. An inquiry should also be made into the degree of fertility manifested by the patient's own brothers and sisters. The history should extend to the diseases of childhood of the patient, particularly inquiring into the state of malnutrition in childhood and the patient's encounters with debilitating diseases during childhood, or venereal disease during his premarital sexual life. The physical examination, of course, is directed to the genitalia, particularly the testicles, prostate, seminal vesicles, and whether or not the vasa defferentia show evidences through beading of scar tissue. A routine, complete blood count is necessary and a basal metabolic rate.

All of these procedures lead up to the main purpose of the examination, a careful study of the patient's own semen, which is the single, most important step in the study of the young man's problem. We prefer the collection of the semen in our office by

masturbation. We ask the patient to abstain from sexual intercourse for a period of five days previous to masturbation, within our own office. A comfortable room is provided and the patient is permitted to lock the door by which he entered the room, giving him a feeling of security which is most important in obtaining a complete ejaculation. He is given a weighed beaker and asked carefully to ejaculate into it the total specimen.

SEMEN EXAMINATION

The examination of the semen is then carried out by a trained technician in a detailed manner. The volume and weight of the specimen, its pH, the length of time necessary for mucolysis, the completeness of mucolysis are all matters of interest. In a counting chamber the number of sperm per c.c. is counted and from this count the total number of sperm in the specimen is estimated. The American Society for the Study of Sterility advise that a count of sixty million sperm per cubic centimeter is the low normal which may be expected to cause conception. A smear of the semen should be stained, a microscopic study of the morphology of the sperm made. At least 80 per cent of the sperm forms should be normal in appearance. An hourly evaluation of the number of motile sperm and the degree of motility is also considered an important observation for the record. We feel greater security if 75 per cent of the sperm forms are actively motile at the end of the first hour's observation, at room temperature. The determination should continue for at least four hours, at hourly intervals, and possibly another check should be made at the end of twenty-four hours and the results carefully tabulated.

ABSENCE OF SPERM

In the complete absence of sperm from the masturbated specimen, a testicular biopsy is the next step. This may be done by the aspiration method or a small incision may actually be made upon the upper pole of the epididymis and an incision made through a few of the tubules of the epididymis and its contents examined. If there are no sperm in the epididymis, clusters of testicular tubules may be examined. If the epididymis and testicular tissue show spermatozoa, an effort should be made to determine the point of obstruction along the course of the vasa deferentia. A vaso-vesiculogram may be done under local anesthesia in the office by injecting the ejaculatory ducts through the urethra, or even by picking up the vas deferens along its course through the scrotum and injecting it both in an upward and downward direction. If spermatozoa are found in the semen but are deficient in numbers with poor motility or show too many abnormal forms, treatment may be advantageous. Depending upon the level of the basal metabolic rate and the blood iodine, thyroid therapy may be found to be indicated. In the opinion of many the proper functioning of the thyroid has more to do with increasing and improving fertility than any other single factor. As a method of treatment daily injections of pituitary and chorionic gonadotropins may be needed.

MALE INFERTILITY

It is true that the present treatment of male infertility problems leaves much to be desired. With the constantly increasing volume of reasearch data being accumulated in the manner outlined above and in the biochemical laboratories as well, decided advances are being made in this problem holding out steadily increasing hope to young, potential parents who face the problem of infertility.

All these new laboratory tests and procedures increase the total cost of urologic care to the patient so greatly that their routine use becomes prohibitive unless the urologist brings them together within the realm of his own office where their cost may more easily be absorbed.

The urologist's office is therefore, primarily, a diagnostic center with its aim the complete urologic study. There the history should be taken, noting first the complaint, completely and fully in the patient's own words. The chronology of his symptoms and signs should then be brought into a well organized statement by the doctor. These are the things for which the patient seeks relief. They must constantly be kept in mind. But the history must then proceed to include the family history, the early life of the patient in his struggle with children's diseases, his accidents and operations, venereal diseases, a history of the gastro-intestinal, cardio-respiratory and neuro-muscular systems, his battles with rheumatism and a very carefully guided inquiry into his sex life.

PHYSICAL EXAMINATION

The physical examination should follow much the same path of inquiry. Texture and distribution of hair, the head's shape; condition of the eyes, their reflexes; the teeth and gums; the throat and mucous membranes; the nasal septum; the palate; the condition of the palpable glands; the heart and lungs; abdomen, genitalia, extremities and their reflexes, the sensorium, especially over the genital and perianal regions, the tone of the rectal sphincter and the all-important rectal and pelvic examinations should be noted. The competent examiner should have a fair notion of the size and position of each kidney before his inspection of the abdominal X-ray tells him what it is.

In the absence of acute inflammatory conditions the urinary tract examination may comprise a calibration of the urethra, inspection of the urethra, bladder neck and bladder, determination of residual urine, bladder tone and capacity. Each ureteral orifice should be watched as it functions. The appearance of the bladder mucosa in all areas must be noted.

CATHETERIZATION

Catheterization of the ureters, if indicated, should be done primarily with No. 4 ureteral catheters well lubricated with olive oil. Through each a small quantity of urine may be collected for Gram's stain on direct smear and for culture. These inlying catheters may then be used for retrograde pyelography. If diodrast is slowly injected through catheters of this small caliber as they are withdrawn, annoying renal colic will seldom occur because their small caliber permits the escape of the dye around the catheter into the bladder and prevents painful over-distention of the renal pelves. The retrograde pyelograms done routinely in an anterior posterior direction with the patient horizontal should immediately be followed by an anterior-posterior pyelogram in the relaxed upright position. Subsequently, special roentgenologic studies of urethra and bladder may be carried out. Intravenous urography may precede or succeed retrograde pyelography as indicated.

Laboratory examinations may include serologic tests for syphilis, urine, a complete blood count, with hemoglobin determination and sedimentation rate, total kidney function by the intravenous phenolsulphonphthalein test, with collection every fifteen minutes for two hours, the urea clearance test and the Addis test. This test will yield base-line determinations for specific gravity at its best concentration and for the urinary sediment under fixed standard conditions may be repeated at any future time for comparison.

OTHER MEANS

It is unlikely that such a review would permit a major urologic disease-process to escape detection.

For further elaboration other means might be needed, such as retrograde pyelograms taken in a lateral position and other odd procedures for special purposes.

For the routine treatment of urologic disease as differentiated from the diagnostic study, the urologist's office again has its pattern set by the ability of the urologist to handle his patients skillfully without too great pain and by the ease with which hospital beds are available to him.

It must be realized that no amount of skill in the handling of instruments, foresight in preparation of patient and instruments or of applied chemotherapy will prevent an occasional patient from having a post-instrumental fever and chill. The underlying cause of the phenomenon is, in fact, unknown. It has been known to follow prostatic massage, to follow the passing of a well lubricated soft rubber catheter or even the calibration of the pendulous urethra in searching for a urethal stricture which was not bound. It may be independent of bacterial invasion. If dependent upon manipulation, it usually occurs at once. There are those who contend that hospitalization on account of this possibility is highly desirable for all patients treated instrumentally, as a safety factor, not because such reactions are less frequent in hospital, but because they are more readily cared for there and less disturbing to the patient. This factor must be weighed and a proper balance struck for each urologist according to his need. Office treatment may thus be confined to the ever diminishing prostatic massage, or it may embrace all methods of instrumental treatment, even including fulguration of bladder tumors.

PROSTATIC RESECTION

It will be remembered that Dr. Davis, of Greenville, South Carolina, who brought electrosurgical prostatic resection to light and usefulness, routinely resected his patients in his office and then had them carried on stretcher across the street to hospital for convalescence.

The alert urologist will wisely avoid trouble by neither instrumenting or massaging the prostate of male patients who show acute urinary tract inflammation. The invading organism in such patients should be classified as rapidly as possible and the proper antibiotic or combination of antibiotics and bactericidal substances applied to the problem of clearing up the infection. Only in the control of residual infection should prostatic massage and instrumentation then be used. Prostatic massage is a procedure which should be used to promote drainage only. Rough massage or massage administered more frequently than three times a week, and better twice or even once a week, produces a mechanical irritation of its own. During prostatic massage a careful, routine evaluation of the pus count should be made and periodic stains of the material expressed should be followed in order to keep aware of the changing character of the invading organisms.

LIFE-LONG FRIENDSHIP

Gentleness in catheterization of the male who is obstructed of urination will frequently earn the life-long friendship of the individual who has been aided in the drainage of his bladder urine. The first principle of easy instrumentation is adequate lubrication; the second is the selection of a catheter of sufficient size snugly to fit the external urinary meatus. Too small a catheter often causes greater difficulty than need be encountered. If the Nelaton or Robinson catheter cannot be passed, a demi-rigid catheter with a Coude' tip, gently manipulated, may find its way through the obstructed prostate. A guiding finger in the rectum may often help catheterization immeasurably.

It is axiomatic that hematuria always necessitates a complete urologic study at the time the patient is bleeding. Much more can be learned at the moment of bleeding than can be learned after the bleeding has stopped. Hematuria must always be considered a sign of serious trouble, although it is equally axiomatic that every urologic lesion bleeds at some time in its course, no matter what its type, but because the most frequently bleeding lesions are tumors, stones and tuberculosis, the need of an immediate search for the cause of the hemorrhage is easily recognized. The one exception to the rule of immediate search for trouble is hemorrhage provoked by and in the presence of an acute infection. Of course fever, a high white count and dysuria, sudden in onset without a previous history of trouble would be a sufficient warning against stumbling into this error.

ANTI-BACTERIAL AGENTS

Anti-bacterial agents such as the sulfones and the antibiotics, should not be used uninterruptedly and singly over long periods of time because, in general, such use serves to make the bacteria refractive to the antibiotic in use.

Much of the urologist's time will be devoted to the treatment of cystitis and trigonitis. For the most part in women of late middle age, careful dilatation of the urethra, up to at least 28-French in caliber, following each dilatation with inflation of the urethra and injection through it by means of a blunt-tipped syringe placed at the external urinary meatus of a solution of ¼ per cent silver nitrate upward into the bladder will help an astonishing number of these patients to a sense of well-being. In dilating strictures of the urethra it is well to carry the upward dilatation forward only one or two gradations, on the French scale, at each sitting. Dilatation should occur no more frequently than once weekly. This slow dilatation pays dividends in the prevention of the production of increased scar tissue. Too tight a meatus in both male and female is often the provocative cause of a trouble which appears on superficial examination to be more deep-seated. A skillful meatotomy will produce markedly beneficial results in such patients.

PENICILLIN EFFECTIVE

The remarkable effectiveness of Penicillin in the treatment of gonorrhea has brought to all of us a great sense of relief from the burden of the previously endless treatment of these unfortunates. There is a penalty in wait for the unwary urologist who, satisfied with the effective treatment of the gonorrheaic through the medium of Penicillin, neglects to take a Wassermann test at the end of two or three months to pick up the luetic infection which may have been suppressed beyond recognition by the early Penicillin treatment of the gonorrhea. Serologic tests for syphilis should be made in the third and 6th month after every infection with gonorrhea.

Sufferers from renal colic should first have the cause of their malady carefully diagnosed. In proven renal colic it must not be forgotten that giving Atropine before giving Morphine effects far greater relief than does Morphine alone. Profenil and other smooth-muscle relaxing drugs have been shown to be of great advantage in cases of renal colic.

SECONAL HELPS

One or two words for the little patient; Seconal given rectally, half to three-quarters of an hour before cystoscopic study, can be depended upon to help in the examination and to serve to make the patient forgetful of the cystoscopic experience, so that if instrumentation is necessary a second time the ordeal will not be so greatly dreaded. It is not, in our opinion, necessary to give an ether anesthetic to the child who must be studied cystoscopically. Instruments have been scaled

(Continued on Page 371)

CEREBRAL PALSY

By W. L. Minear, M. D., Ph. D., F. A. C. S.,
Chief Surgeon, The Carrie Tingley Hospital for Crippled Children,
Truth or Consequences, New Mexico

Cerebral palsy is a general term used to designate neuromuscular and sensory disturbances which have resulted from lesions within the central nervous system. There are six main classes or types, which are:— 1) cerebral spastic paralysis, 2) athetosis, 3) ataxia, 4) tremor, 5) rigidity, and 6) flaccidity. Phelps' classification is given in Figure 1. There may also be mixed types, combinations of the above, and also a miscellaneous group in which those with mental retardation, dystonia and mixed dominants are placed. The main types of cerebral palsy will be defined and discussed later.

Most of our contacts with the cerebral palsied come through the Department of Public Welfare clinics and the hospital clinics which are held the first three Thursdays of each month at the Carrie Tingley Hospital for Crippled Children. After examination, the cerebral palsied individual is placed into one of the major diagnostic groups so that he may receive proper treatment. The first problem we investigate is the intelligence of the individual. We do not attempt to form an opinion at the first investigation. No single intelligence test can be applied to the cerebral palsied patient which will give us the intelligence quotient accurately. The Minnesota Pre-School Scale, the Vineland Maturity Scale and the Oseretsky Motor Proficiency test have been used. With few exceptions, normal intelligence is essential to carry out a satisfactory program of treatment. In doubtful cases the cerebral palsied child is admitted to the hospital to undergo a period of observation. The observation period enables us to get acquainted with the child and it enables him to get better acquainted with us and the hospital regime. A cerebral palsied patient usually gives a much better impression on second examination. After a week or ten days of observation, general, neurologic and orthopaedic examinations are repeated. Special birth history and cerebral palsy examination forms are filled out (Figures 2 and 3). If we feel the child can be benefited by treatment, he is admitted as a regular patient. If no orthopaedic treatment is indicated, the parents are referred to a special school for the cerebral palsied, where the necessary physical, occupational and speech therapy can be given, as well as special schooling. Physicians who treat the cerebral palsied feel that in order of importance, speech comes first, the use of the hands second and locomotion Third.

SPEECH

As yet we do not have funds for a speech therapist and cannot carry out that part of the program. Fortunately, relatively few of our cerebral palsied patients under treatment at the present time have serious speech difficulties. We have succeeded in teaching these to form a few simple words so that they can make their needs known. Inability to move or properly control the speech musculature is a common cause of no speech or defective speech in the cerebral palsied. Speech defects due to faulty hearing are found in both the athetoid and spastic patients. A simple test to determine ability to control speech musculature is: — First, tongue control — Find out if the child can move the tip of the tongue in various directions on command, and if he can move the back of his tongue by saying "ca ca" or "ga ga". Second, lip control — Opening and closing teeth and lips and making lips round. Third, diaphragm and pharyngeal control — Can the child direct the outgoing breath through his nose and through his mouth on command. A health nurse or parent can make these simple tests provided the child is old enough to understand the requests. A child who seems to be hard of hearing should be tested by an otologist or an experienced audiometrician. Most speech defects should be corrected by an experienced speech therapist.

USE OF THE HANDS

Training in the use of the hands consists of learning simple manual skills including dressing and undressing, brushing teeth, washing face and hands and eating. This training makes a child more self sufficient. Also, when he goes home he is able to relieve a member of the family of these duties. This program should be supervised by a trained occupational therapist and much progress can be made with help from all who attend the child.

LOCOMOTION

Locomotion is primarily an orthopaedic and physical therapy problem. Some children are taught to walk without resorting to surgical correction or the use of braces. Others need both surgical correction and braces before walking is mechanically possible. The child learns sitting balance in a special chair and standing balance in the standing table. Walking is accompanied by special training with the aid of braces, parallel bars and crutches. Walking skis, stationary bicycles and other special apparatus are employed in special cases. We must keep in mind that there are a great number of cerebral palsied children who can be rehabilitated in a short time and who need little or no training in speech, use of the hands or balance. The mild spastic monoplegias and hemiplegias are

CLASSIFICATION FOR CEREBRAL PALSY
PHELPS

(FIGURE 1)

SPASTIC—Area 4 & 6
1. Moderate
2. Severe
3. Atonic
   - A. Paraplegia
   - B. Monoplegia
   - C. Quadriplegia

ATHETOID—Basal Ganglia
1. Non-tension
2. Tension
   - A. Moderate
   - B. Severe
3. Head and Shoulder
4. Dystonic
5. Shudder
6. Tremor with Tension
7. Tremor without Tension
8. Pitch Cut Off
9. Opisthotonic

TREMOR—Cerebellar
1. Nonintention
2. Intention
3. Constant

RIGIDITY—Area 6
1. Intermittent
2. Constant

ATAXIC—Cerebellar
1. 8th Nerve
2. Cerebellar
3. True Ataxia

FLACCIDITY—Area 4
1. Paraplegia
2. Monoplegia
3. Quadriplegia

MIXED—
1. Basilar
2. Athetoid with Rigidity
3. Spastic with Athetosis
4. Spastic with Polio
5. Athetosis with Deafness

MISCELLANEOUS—
1. Spastic with Rigidity (Seizures)
2. Dystonia
3. Mixed Dominant
4. Spastic with Arthritis
5. Mental Retardation
6. Dystonia with Blindness—Deafness
7. Postoperative spastic

Carrie Tingley Hospital for Crippled Children

CEREBRAL PALSY BIRTH HISTORY FORM

(FIGURE 2)

Patient---Date---No.---

Address---Parent---Age---

City---Phone---B. D.---

State---Occup.---Ref.---

CC. Legs Arms Speech

FH:— Similar conditions mother's family---

Similar conditions father's family---

Obstetrical:— 1st---2nd---3rd---4th---5th---6th---Preg.

Mother's age ---father's age---at patient's birth

Miscarriages---

Unusual conditions during pregnancy---

Birth:— Term ---Premature ---Late---Weight---

Labor:— Normal ---Precipitate ---Prolonged---

Presentation:— Head ---Transverse ---Breech---Footling---

Instruments ---Surgery---Drugs---

Mother's Condition After Delivery:— Normal ---Tears ---Infections---

Repairs---

Child's Condition After Delivery:— Normal ---Blue ---Jaundice ---

Resuscitation ---Resuscitation ---

Convulsions ---Paralysis ---

Medicine Dropper ---

Infancy:— Feeding---

Regained Weight ---Activity ---Convulsions ---

Development:— Held Head Up---Walked Assisted ---

Sat Alone ---Stood Alone ---

Pulled Up ---Walked Alone ---

Condition First Noted---Talked---

Dress Self---Feed Self---Take care of bathroom needs---

Abnormal Bleeding ---Sight---Hearing---

Illnesses During Childhood:— ---

Disposition:— Happy---Cross---Fears---

Affectionate---Dependable---Concentration---

Appetite---Bowels---Toilet Training---

Handedness:— Child---Father's Family---Mother's Family---

Schooling:— ---

Interests:— Scholastic---Hobbies---

Athletics---Activities---

Treatment:— Surgical---

Medical---

Maturity Level:— Motor---

Personal - Social---

Language---

Adaptive---

included in this group. Fortunately, the severe athetoid and spastic quadriplegias are in the minority. In the past three years, 505 cerebral palsied children have been registered, examined and classified at the Carrie Tingley Hospital for Crippled Children. Fortunately, many of these patients are mildly involved. Another group requires the services of a cerebral palsy school but cannot be admitted to such a school because of lack of funds and lack of space in the acceptable schools. The Crippled Children's Services of the Department of Public Welfare refer the majority of these cerebral palsied patients to the Carrie Tingley Hospital. It is presumed that there are approximately 250 more cerebral palsied patients who have not been registered. Early diagnosis and treatment of cerebral palsied children is essential for a good medical program.

TERM DEFINED

The term, cerebral palsy, constitutes at least six main classes of handicapped children, of which the older term, cerebral spastic paralysis or Little's disease, is only one of the group. Athetosis, ataxia, tremor, rigidity and flaccidity are the five remaining classes. Mental deficiency may occur in any, but is most common in the spastic and rigidity types. The spastic paralysis group constitutes over 50 per cent of the cerebral palsied individuals. H. R. McCarroll and J. R. Schwartzmann from the Shriners' Hospital for Crippled Children in St. Louis reported 70 per cent true spastics in 1,720 cases. Spasticity is characterized by the presence of the stretch reflex which is an uncontrollable contraction when the muscle is suddenly stretched or when its antagonist is willed to contract. Hyperactive reflexes, ankle and patellar clonus and increased muscle tone is common. Anatomically the lesion is in some portion of the pyramidal tract. Most cases can be classified as to cause under one of the three headings: — 1) Traumatic, 2) developmental, and 3) infection.

ATHETOID TYPE

The next most common type of cerebral palsy is the athetoid group. Athetosis comes from the Greek, meaning "always moving". There are many involuntary motions in which the involved muscles take on a certain pattern or position. This position tends to be retained no matter what muscle or group of muscles is used. There are at least a dozen types of athetosis. The physician must be highly experienced in his field to recognize the various subtypes. Athetosis is usually due to a damage or failure of development of the basal ganglia. They must be differentiated from the spastics because their treatment is much different, both conservative and surgical. It is valuable in reviewing the history to obtain photographs of the child at various ages. The position of the limbs tends to change from time to time. This change is termed the athetoid shift. Surgery is justified infrequently. The chief indication is correction of contractures in the neglected cases so that control braces may be used to make locomotion possible.

ATAXIC TYPE

The ataxic type of cerebral palsy is characterized by loss of balance control with resultant involuntary movements in attempts to regain control and maintain equilibrium. Nystagmus is frequently present. Orthopaedic surgical procedures are usually not needed. The whole program is built around occupational and physical therapy to train the individual in standing and walking balance and the use of the hands.

The rigidity type of cerebral palsy has long been confused with the spastic type, but it can be differentiated by the lack of elasticity in the muscles when they are stretched. The sensation is similar to bending a soft lead pipe. Mental deficiency is common in the rigidity type. Treatment is similar to that in spastic paralysis.

The tremor type of cerebral palsy is uncommon. It is characterized by fine or coarse involuntary but rhythmic contractions. Orthopaedic treatment is usually not indicated. Physical therapy modalities are effective in training the patient with tremor.

FLACCIDITY TYPE

The flaccidity type of cerebral palsy is also rare and, in its pure form, the child resembles a "rag doll". I know of only two in New Mexico. These are brothers. In making a diagnosis, the physician must rule out amyotonia congenita. Rehabilitation of this severe type is not possible with present methods.

It is obvious that no single method of treatment can be instituted. Many methods of treatment for multiple handicaps must be combined in this field. It is true that cerebral palsy cannot be cured by our methods at present, but it can be ameliorated to a very great extent, especially when treatment is started at an early period by experts. Surgical treatment of the cerebral palsied is confined mostly to the spastic types. Neurectomies, tendon transplantations, bone stabilizations and osteotomies are all extremely valuable in correcting the multiple deformities of the spastic child. The milder spastics require no surgery but can be treated by physical therapy and braces.

USE OF BRACES

Braces are usually used for quite different purposes in the cerebral palsied than in those children afflicted with infantile paralysis. In the athetoid children, braces are applied to control the poorly coordinated and unwanted motions. Braces are constructed so that individual muscle groups can be trained to function under voluntary control. The braces must be specially made and well fitted and well balanced. The athetoid child requires years of standing and walking experience in these control braces. The spastic child requires braces to overcome the spastic muscle and place the limb in proper position, and also to prevent contractures. Details of bracing the spastic and athetoid patients are discussed in "Cerebral Palsy: — Spasticity."

SPECIFICATIONS

The following is a summary of specifications for braces for cerebral palsied patients:—

1) All braces should be calipered. Use the small round caliper for the smaller children and the flat caliper with separate ankle joints for the larger children.
2) Hip joints should be ball bearing. Pelvic band should be wide, strong and rigid and extending from AP spine to AP spine around back. Leather strap should be in front.
3) Pelvic band should have back uprights to get better control.
4) For large patients with spastic adductors and internal rotators, a strong pelvic band is necessary.
5) The shoes should be reinforced with long sole plates extending to beneath the metatarsal head; otherwise, if marked equinus, they will break the shanks just distal to the short plate. Remove heel counters from shoes to prevent blisters.
6) Be sure the braces are perfectly aligned at right angles to the bars and will stand alone — so well balanced that the braces practically stand and walk by themselves. If the braces are not balanced in this way, the child will not be able to use them.

PHYSICAL THERAPY FIELD

In the physical therapy field, many modalities are used in the treatment of cerebral palsy. The physical

Carrie Tingley Hospital for Crippled Children

CEREBRAL PALSY EXAMINATION FORM

(FIGURE 3)

Name----------Date----------Case No.----------

Address----------Height----------Weight----------

	Normal	Good	Fair	Poor
General Appearance				
Nutrition				
Muscular Development				
Voluntary Ability to Move at Will				
Trunk Function				
Leg Function				
Speech				
Facial Control				
Sight				
Hearing				
Maturity Level, Motor				
Maturity Level, Personal–Social				
Maturity Level, Language				
Maturity Level, Adaptive				

	Right	Left
AJ		
Clonus		
Babinski		
Cremasterics		
Abdominals		
Biceps		
Triceps		
Periosteals		
KK		

Eye Motions:
- Nystagmus----------
- Strabismus----------
- Pupils----------

Tongue Motions:
- Extension----------
- Retraction----------
- Lateral----------
- Upward----------
- Downward----------

Handedness----------

Classification	Rt. Arm	Rt. Leg	Lt. Arm	Lt. Leg	Neck	Trunk	Face
Spasticity							
Athetosis							
Non-tension							
Tension							
Ataxia							
Tremor							
Intention							
Non-Intention							
Rigidity							

Diagnosis	Etiology	Prognosis	Treatable

Aim of Treatment	Method of Treatment

therapy treatment must be carefully selected for each patient. Among the modalities are massage, passive motion, active assistive motion, active motion, resisted motion, conditioned motion, automatic motion, combined motion, rest, relaxation, motion from the relaxed position, balance and reciprocations exercises.

The organization chart, as shown in Figure 4, gives some idea of the complexity of the cerebral palsy program and the multiple needs that must be met by all concerned.

SUMMARY

1) A brief orientation in the field of cerebral palsy is presented.
2) A classification for cerebral palsy (Phelps'), as well as special birth history and examination forms are presented to guide the physician in his diagnosis and examination.
3) In general, the cerebral palsied patient responds favorably to special physical therapy modalities.
4) The spastic type of cerebral palsy is the only one in which orthopaedic surgical methods are indicated, and then only the severe or neglected spastic patient. Early conservative treatment is the treatment of choice.

I wish to thank Mrs. Jane Osburn, medical secretary, for her valuable assistance arranging and typing this manuscript. — W. L. Minear, M. D.

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Prophylactic Measures To Control Epidemic Keratoconjunctivitis

In presenting the epidemiology of epidemic keratoconjunctivitis in the *Journal of Ophthalmology* (July 1949), Thygeson reports from his experiences during the epidemics of 1941-1942 and 1947-1948 that numerous transmissions are due to contamination during office practice. The disease was transmitted by use of contaminated solutions such as tetracaine, cocaine-epinephrine and homatropine, from contaminated tonometers, direct finger to eye transmission and fomites. Asymptomatic conjunctival of respiratory carriers could not be demonstrated.

In order to prevent transmission through office procedures, the following measures for prophylaxis were suggested:

(1) Discard all dropper bottles.
(2) Use individual sterilizable droppers.
(3) Wash hands thoroughly before and after treatment.
(4) Use disposable treatment chair arm covers.
(5) Use of individual masks and goggles for industrial workers.
(6) Recognize and isolate cases early.

Office Urology

(Continued From Page 366)

down to child and infant size so that unusual trauma to the urinary tract is not necessary. If properly handled, children who need routine urologic treatment can be cared for with the same dignity and dispatch which should characterize the handling of adults. Special methods of anesthesia are not necessary. The neglect of completeness in the study of the child urologic patient is even less forgivable than in the adult because the underlying, troublemaking lesion in the child may be the presence of a congenital anomaly which, if recognized early, is correctible, but if neglected may result in the destruction of either one or both kidneys. The congenital lesions of childhood are even more responsive to treatment than are the acquired lesions of adult life. There is much satisfaction in the treatment of the child urologic patient because of the delightful long-lasting results which can be obtained.

Organization Chart-Basic Units In A C. P. Clinic

SUPERINTENDENT
MEDICAL DIRECTOR
PEDIATRIC, NEUROLOGICAL OR ORTHOPEDIC DOCTOR

EXECUTIVE DIRECTOR OF CLINIC

DIAGNOSTIC STAFF
1. Neurologist
2. Orthopedist
3. Psychologist
4. Eye and Ear
5. Psychiatrist

CEREBRAL PALSY COMMITTEE
(Doctors, Trusties, Etc.)

Physiotherapy	Speech	Occupational Therapy	Soc. Service Conditions the Field For	Education	Parents Club
Teacher Control. Control of Muscles and Muscle Groups. Progressive Relaxation for Athetoids. Coordination for Ataxias and Spastics Walking Standing Balance	Athetoids. Central Deafness, Correction of Reversed Breathing. Spastic Stretch Reflex (Ruled Out). Breating. Tongue and Lip Control. Ataxias Placement.	Translates Control Learned in P.T. to Active Skills in O.T. 1. Feeding Aids 2. Dressing 3. Active Skills 4. Socialization Groups.	1. Contacts 2. Social History 3. Out Patients 4. Financial Arrangement 5. Transportation 6. Follow-Up.	Specially Trained School Teachers, Private Tutors, Public Schools.	Parents Understanding. 1. Check Up In Family by Tech. 2. Coordination.

(FIGURE 4)

"Reason Has Never Failed Men"

(Continued From Page 361)

as a "slush fund" to be used **against** the American people! Of course, the money spent for this administration booklet, for recordings of speeches by Mr. Ewing, tax money used for propaganda purposes, or the campaign fund of the Democratic National Committee can in no way be considered a "slush fund". The shoe doesn't fit "us Democrats".

The honored profession of medicine, the individual doctor and his organizations are placed before the people as money-mad oppressors who gloat in the misery of human illness and disease. This is the shopworn technique of socialists. Alienate the majority of the people against a person, a group, an organization, or a class with deliberate lies and misrepresentation — then move in and take over! A very careful reading of this booklet reveals no reference to the fact that America has the finest medical care in the world, the best hospitals, the highest life expectancy, etc. The theme is entirely derogatory and after medical care becomes the property of our benevolent government — one by one, these lovers of humanity and the common man will attack and take over every section of free enterprise under similar pretenses. At the same time they shout platitudes of freedom from the housetops.

PROPAGANDA PIECE

This booklet is an effective piece of propaganda only because there are so many gullible people in America — for one reason or another. There are, for instance, those who think the Democratic Party can do no wrong — they vote "straight". They use no logic or reason — they are born Democrats. Then there are those who labor under the false idea that what they can get from the government costs them nothing — so the more the merrier! The love of money has made them loyal supporters of a misguided party that promises anything and everything to remain in power. Similarly, there are far too many Americans who take no interest in the state of their government. They do not take the trouble to vote, thus allowing professional politicians to usurp their power at the polls.

Has the time come for these people to reflect upon what this party is costing them in return for what they are getting? Most of them love their freedom above all things! Do they now see freedom slipping away from them on a "security balloon"? If so, reason shall prevail and save America from Socialism. "Reason never has failed men". It shall not fail America today or tomorrow!

VITAMIN A

Comparative Absoption Of Various Types Of Vitamin A Preparations

Lewis, J. M. & Cohlan, S. Q., M. Clin. North America 34:413, 1950

Unit for unit, so-called "aqueous" vitamin A preparations are more potent than oil products due to the minute particle size of the oil as present in the former. Because some mothers have induced hypervitaminosis A in infants by administration of large doses of high potency oils, it is suggested that the capacity of vitamin A bottles be limited to 15 cc. and potency be fixed at 10,000 units per cc. "Under these circumstances, it will be most unlikely for hypervitaminosis A to take place."

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Oral Antibiotic Effective in Treatment Of Infections

After use on a large number of patients over a period of a year, aureomycin by oral administration has proved efficacious in the treatment of a variety of infectious diseases. The present status of aureomycin is summarized by Spink and Yow in the *Journal of the American Medical Association* (December 3, 1949). It is their opinion that aureomycin is of value in bacterial infections due to gram positive organisms, some gram negative organisms, and in rickettsial and virus diseases.

In staphylococcic infections including bacteremia resistant to penicillin or sterptomycin, pneumococcic pneumonia, sub-acute bacterial endocarditis in which the invading organism is Streptococcus viridans or Streptococcus faecalis, and in infections due to beta-hemolytic streptococci or Strepcoccus faecalis, aureomycin has been of therapeutic value.

Among the gram negative organisms effectively controlled by aureomycin are meningococci, Escherichia coli, Aerobacter aerogenes, Klebsiella pneumoniae and Hemophilus influenzae. Gonorrhea has responded favorably to the administration of aureomycin, although less dramatically than with penicillin. Encouraging results have been obtained with its application in granuloma inguinale, tularemia, brucellosis and whooping cough.

Experimental and clinical studies have shown aureomycin to be therapeutically effective in Rocky Mountain spotted fever, recrudescent epidemic typhus (Brill's disease), Q fever and murine typhus. Aureomycin has been used successfully in the treatment of lympogranuloma venereum, infectious mononucleosis and atypical pneumonia. Experimentally it is active against the virus causing psittacosis, the spirochete of repasing fever and leptospirosis.

A satisfactory dosage schedule has been 30 to 50 mg. per kilogram of body weight per day. It is administered orally to adults in a dose of 0.5 Gm. every six hours for one to three weeks.

Untoward effects from aureomycin are minimal. Nausea may be encountered. Vomiting, epigastric distress, soft stools and burning of the rectum have also occurred.

Body Areas Known to be Susceptible to Cancers of Industrial Origin

Carcinogenic agents have affinities for specific organs. A partial list of the agents which can cause cancer and the organs affected is as follows:

SKIN: sunlight, arsenic, paraffin oil, shale oil, pitch and tar, some crude oils, roentgen rays and radium, anthracene oil, lubricating oils, creosote.

SCROTUM: soot from certain kinds of coal, mineral oils.

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NASAL SINUSES: nickel carbonyl.

LUNGS: tar fumes, uranium, chromates, asbestos.

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OFFICIAL JOURNAL OF THE SOUTHWESTERN MEDICAL ASSOCIATION AND EL PASO COUNTY MEDICAL SOCIETY

V 31 N 12



December, 1950

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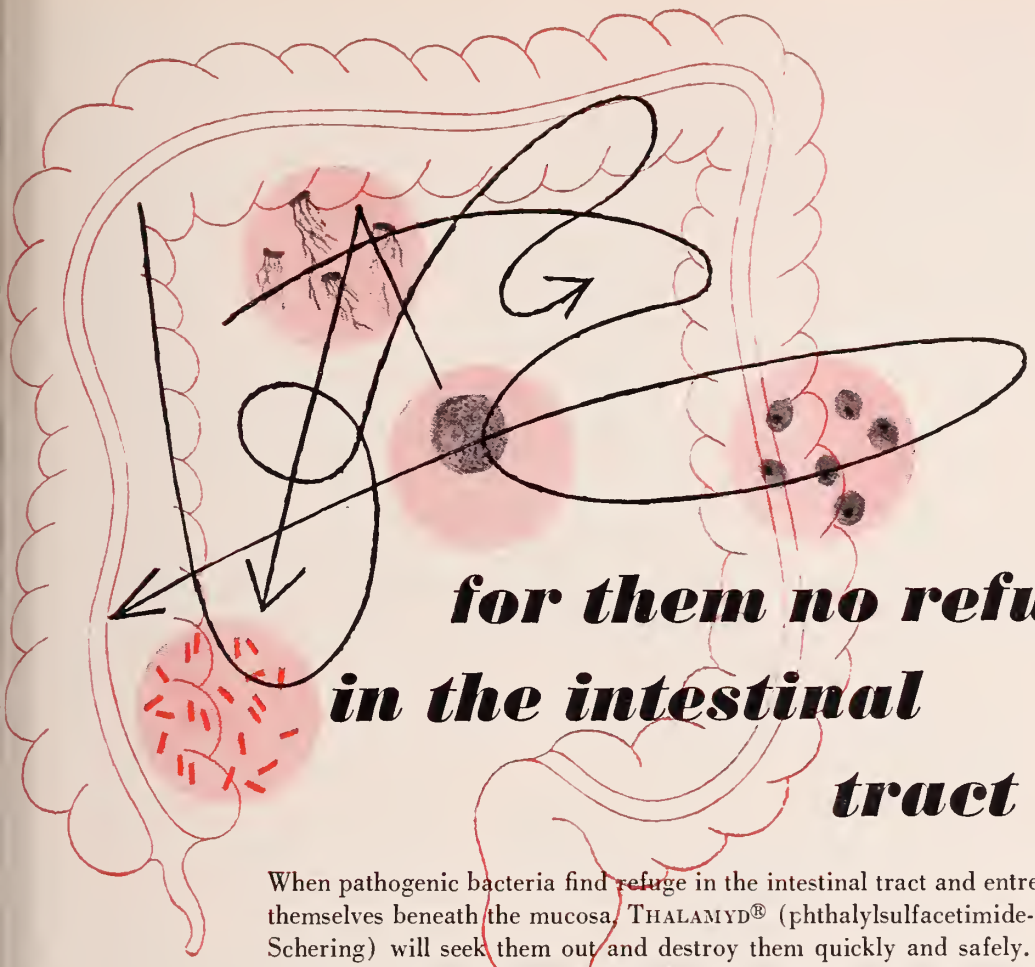
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2. KARNOSH, L. J. and ZUCKER, E. N.: A. Handbook of Psychiatry, St. Louis, Mosby, 1945.

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*Perloff, W. H.: Am. J. Obst. & Gynec. 58:684 (Oct.) 1949.

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Vol. XXXI DECEMBER, 1950 Number 12

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1. Filler, W.: J. A. M. A., 143: 1235 (Aug. 5,) 1950

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DR. LOUIS W. BRECK TO HEAD SOUTHWESTERN MEDICAL ASSOCIATION

Dr. Louis W. Breck of El Paso was installed as president of the Southwestern Medical Association at its annual meeting in Phoenix, Ariz., Oct. 26-28, at conclusion of an extraordinary and highly interesting program.

Other officers elected at the meeting were Dr. James Walsh, Douglas, Ariz., president-elect; Dr. Joseph Bank, Phoenix, first vice-president; Dr. Leland Evans, Las Cruces, N. M., second vice-president; Dr. Wesley Connor, Albuquerque, N. M., third vice-president; and Dr. W. W. Schuessler, El Paso, who was re-elected secretary-treasurer. Dr. I. J. Marshall from Roswell, N. M., current president of the New Mexico Medical Society, is the immediate past president of the Southwestern Medical Association.

Meetings were held in the Westward Ho Hotel. In addition an extensive program of entertainment in the evenings was enjoyed by doctors and their wives.

Dr. Breck, the new president, has been active in the Association for 12 years. A native of El Paso, Texas, he was awarded his B. S. and M. D. degrees at Northwestern University. Upon graduation from medical school, he held a rotating internship at Mary's Help Hospital in San Francisco. He then was assistant resident surgeon at San Quentin Prison, Calif., for two years. Next he was at the Mayo Clinic with a fellowship in orthopedic surgery from 1934 to 1937. In 1939 he was certified as a diplomate of the American Board of Orthopedic Surgery.



Dr. Louis W. Breck

SERVED IN ARMY

Returning to El Paso in 1937, Dr. Breck has practiced orthopedic surgery from that time to the present with the exception of three and one-half years in the Army. He entered the Army with the rank of Captain and left the service as a Lieutenant Colonel. He was in orthopedic surgery during his entire service and was chief of the orthopedic section at the Regional Hospital, Camp Swift, Tex., for approximately three years.

Dr. Breck currently is in partnership with Dr. W. Compere Basom, Dr. Morton H. Leonard, and Dr. George N. Aldredge, in the practice of orthopedic surgery in El Paso. Their organization is affiliated with Northwestern University Medical School as part of the school's three-year residency for orthopedic surgeons and trains two fellowship men at their office and in the affiliated hospitals in El Paso on a rotating basis. Dr. Breck is consultant for the U. S. Army at William Beaumont Army Hospital, consultant for the Veterans' Administration, approved orthopedic surgeon for the Texas Crippled Children's Division, senior orthopedic surgeon at the El Paso General Hospital, and is on the active staff as orthopedic surgeon at Hotel Dieu Sisters' Hospital and Providence Memorial Hospital in El Paso.

Societies of which Dr. Breck is a member include the American Academy of Orthopedic Surgeons, the Western Orthopedic Association, and the Association of Bone and Joint Surgeons. He is president of the Texas Orthopedic Association for 1950. He was one of the founder members of the Southwestern Surgical Society.

MEMBER OF SOCIETIES

Dr. Breck is a member of the Masonic Order, The Scottish Rite, the Shrine, Sigma Alpha Epsilon Fraternity, and the First Presbyterian Church. He is president of the Southwestern Alumni of Phi Beta Pi Medical Fraternity.

Guest speakers at the meeting were Dr. William Dock, professor of medicine at the State University of New York; Dr. Joseph W. Gale, professor of surgery at the University of Wisconsin; Dr. Leon Goldman, professor of surgery at the University of California; Dr. John H. Lawrence, director of the Donner Laboratory of Medical Physics at the University of California; Dr. George Piness, associate clinical professor of medicine at the University of Southern California; Dr. Marcy L. Sussman, formerly clinical professor of radiology at the University of Southern California; Dr. Maxwell M. Wintrobe, professor and head of the department of medicine at the University of Utah; Dr. Stewart Wolf, associate professor of medicine at Cornell University; and Dr. Salvador Zubiran, professor of nutriology at the National University Faculty of Medicine of Mexico.

The meeting was opened with an address of welcome by Dr. Robert E. Hastings of Tucson, president of the Arizona State Medical Association. The response by Dr. Marshall, president for 1949-1950, is printed in full in this issue of SOUTHWESTERN MEDICINE.

MARICOPA HOSTS

Hosts for the meeting were members of the Maricopa County Medical Society, and Dr. Bank was general chairman for the gathering. Members of the Phoenix convention committee were Dr. L. D. Beck, Dr. John Cogland, Dr. J. M. Greer, Dr. David C James, Dr. Paul Jarrett, Dr. L. Clark McVay, Dr. M. W. Merrill, Dr. Lloyd Swasey and Dr. Kent Thayer.

Members of the committee of the Ladies Auxiliary of the Maricopa County Medical Society were Mrs. Karl S. Harris, Mrs. Preston T. Brown, Mrs. Robert H. Cummings, Mrs. L. L. Tuveson, Mrs. Charles Van Epps and Mrs. Thomas W. Woodman.

The meeting was described by the Arizona Republic newspaper in Phoenix as "American medicine — the best in the world — at work making itself better . . . . Research into things no one understands for sure now, but maybe will understand next year, or in five years, or in a generation. Hope that things will be better next year than they were last year . . . . Distinguished men flying to Phoenix from the corners of the country to offer their little contribution of understanding to the great common pool of knowledge. Helping the doctors of Phoenix and Arizona, New Mexico, West Texas and Northern Mexico to a better understanding — to more knowledge that will help their patients."

LUNCHEON DISCUSSIONS

Round table luncheons were held on Thursday and Friday with at least three of the guest speakers in attendance at each luncheon. Of particular interest at one of the meetings were remarks by Dr. Goldman, who spent three months in Germany last Summer in connection with the Unitarian Service Committee and the International Refugee Organization operating under the United Nations to give medical refresher courses to doctors among the displaced persons in Munich.

Dr. Goldman was a member of a team of about 180 doctors whose purpose was to bring displaced doctors up to date in medicine so that they could resettle elsewhere and practice medicine.

About two-thirds of the European doctors who took the course—none of them Germans—could do a job comparable to one done by the average American doctor, Dr. Goldman said.

GERMAN MEDICINE

"Medicine in Germany is at its lowest ebb," Dr. Goldman said. "There is an oversupply of civilian doctors in Western Germany. Medical schools are turning out doctors at a very rapid rate, but the quality of education is so poor that many have to accept other jobs in medicine, such as laboratory work, instead of being able to go into practice."

In conjunction with the annual convention was the semi-annual meeting of the Southwestern Dermatological Association, which held a clinic on skin diseases Oct. 28 in the Good Samaritan Hospital in Phoenix.

It was the consensus by men attending the Southwestern Medical Association meeting that papers presented were of outstanding clinical value. The papers will be carried from time to time in SOUTHWESTERN MEDICINE.



MEDICAL LEADERS—*Retiring and newly elected officials of the Southwestern Medical Association, which met in Phoenix, Ariz., Oct. 26-28, are (left to right) Dr. Louis W. Breck, El Paso, president; Dr. James Walsh, Douglas, Ariz., president-elect; Dr. I. J. Marshall, Roswell, N. M., retiring president, and current president of the New Mexico Medical Society; Dr. Joseph Bank, Phoenix, first vice-president; and Dr. W. W. Schuessler, El Paso, who was re-elected secretary-treasurer. Not present were Dr. Leland Evans, Las Cruces, N. M., second vice-president and Dr. Wesley Connor, Albuquerque, N. M., third vice-president.*

De Rebus Medicis Et Politicis

BY ROBERT B. HOMAN, JR., M. D., EL PASO, TEXAS
MEMBER OF THE HOUSE OF DELEGATES OF THE AMERICAN MEDICAL ASSOCIATION

GOOD WILL

Good will is a rather abstract and indefinable state of mind which includes approval, benevolence, approbation, and, above all, respect. The good will of fellow men is sought by each individual, organization, industry, political party politician, and most governments. The method by which this abstract something is obtained is varied by circumstances and by the desire of all individuals. It is certainly safe to say that good will cannot be purchased on the open market, and long held, by the use of money or promises alone. On the other hand, it is purchased through personal honesty, integrity, and ethical behavior toward and continued service to people of all walks of life.

No individual, no organization, no business, and no political party or politician can gain and hold public good will without an inherent honesty and without the spirit and desire to serve. Political dishonesty will eventually cause our present bureaucratic administration to lose the good will of Americans, despite promises of Utopia. That will happen regardless of the thousands of public relations experts now on the taxpayers pay-roll trying to sell the Welfare State to the American people. (Witness the results of the November, 1950 election). The great American system of free enterprise has been denounced and attacked, sometimes ruthlessly, but more often with subtlety. It is difficult to conceive how an honest man can believe that our system of free enterprise is a failure. Isn't this the system that has produced the highest standard of living ever known in history? Wasn't this country the "Arsenal of Democracy" during two World Wars?

PUBLIC RELATIONS

Yet we now find industry in a peculiar public relations field. Industry must now only strive for public good will; it now has to expand its public relations in an effort to defend, and sell, the system of free enterprise. The business man finds himself in the unenviable position of seeing his tax money being used to discredit the very source of the tax! He must fight the socialistic trend advocated by the bureaucrats in Washington.

American Medicine was forced into this field of battle about two years ago. The A. M. A. educational campaign, and similar efforts at the state and county levels, are a fight for a free profession — for a free enterprise system of medical care. Why has this become necessary? Surely the false promises of the economic planners are not the sole reason. There must be a deeper cause. In that connection, what has happened to the great public good will formerly enjoyed by the medical profession? Perhaps we should examine ourselves.

GOOD WILL

There was a time, not too long ago, when the doctor was the most respected man in his community, and his organizations were looked upon with thorough approval. American Medicine had the good will of Americans. That is no longer true. Medical ethics have not changed, the purpose of medical organization has not deviated, but American public opinion of the doctor and his organizations has smoldered. We may point with pride to our extended life expectancy, our great hospital system, our research, our miracle drugs, our unexcelled medical colleges, our post-graduate training, our specialists, our surgical advances, our free treatment of the needy, to the world's best medical care — all to no avail. These are things to be expected in America.

The cause of our loss of public esteem lies elsewhere. Whether we like it or not, the fault lies in the personal good will obtained or lost by **every member of the medical profession.** "One rotten apple can spoil the whole barrel". A few hundred could spoil the whole crop! Unfortunately, the public's opinion of a group is, too often, dependent upon the actions of one, or a few, of its members.

SERVICE TO HUMANITY

The practice of medicine is a social occupation, a profession founded on service to humanity. Whenever a doctor places monetary consideration above service, he does not deserve the good will of the people or of the profession. The establishment of "grievance committees" by medical societies is an admission that injustices exist in patient-doctor relationship. Rightfully, the physician's license to practice is issued by the state, and, also rightfully, his professional conduct is governed by a code of ethics laid down by his fellow doctors. The ethical doctor will always have the respect of his fellow men. The profession is not in sympathy with those members who violate their professional responsibility or exploit the public. The tragedy is that all of us suffer in public esteem because of these few.

Each member of the profession is, therefore, personally responsible for the public's opinion of American Medicine. Charles Fletcher Dole once said, "Good will is the mightiest practical force in the universe". He also said, "The Golden Rule works like gravitation". It might be well for each of us to recall these words daily, and profit thereby.

STERILITY

Evaluation Of Sterility Problems Of The Male

Farris, E. J., J. Urol. 63:748, 1950

Dr. Farris presents further important data relative to reproductive physiology, ie., daily emission, or ejaculation every other day, reduces the relatively fertile male to a sub fertile level; abstinence for 5 days is required to attain maximum fertility; intercourse twice with 6 to 8 hours makes available a greater number of sperm for fertilization than only one coition after abstinence. Having determined tubular potency and date of ovulation of the wife, and classified the husband as to degree of fertility*, intercourse can be timed to insure maximum fertilization efficiency.

* *High fertility — 185 million or more active sperm; relatively fertile — 80 to 185 million active sperm; subfertile — below 80 million active sperm.*

THE ADDRESS OF DR. J. J. MARSHALL OF ROSWELL, RETIRING PRESIDENT OF THE SOUTHWESTERN MEDICAL ASSOCIATION AND CURRENT PRESIDENT OF THE NEW MEXICO MEDICAL SOCIETY, BEFORE THE ANNUAL CONFERENCE OF THE SOUTHWESTERN MEDICAL ASSOCIATION IN PHOENIX LATE IN OCTOBER

Today, I would like for a few brief minutes to summarize for you some of the more recent problems which organized medicine is facing. The American doctor is again nearing a critical period. The battle lines are clearly being drawn. Again it is political medicine versus the American way of medicine, the way which has in 50 years raised life expectancy from 49 to 68 years. No other nation in the world can boast such an advance. This achievement has been made possible by the constantly rising standards and improvements in every field of medicine. The American doctors cannot allow federal intervention to curb such progress by removing the incentive and ambition of individuals to continue to foster better health and longer life.

In 1949 and again early this year by defeating reorganization plan No. 1, and its revised edition No. 271, the Congress of the United States turned down an attempt by President Truman and his administration supporters to put the first thrust of politics into medicine. Mr. Oscar Ewing, Federal Security Administrator and the principal mouthpiece of this organization saw his personal ambitions and well laid plans come to naught. Previously he had made the statement that if socialized medicine could not be had as a whole, then it could be taken piecemeal. Now, the effort to obtain that first slice of the pie is confronting us.

SUGAR-COATED APPROACH

Our old friends, Senator Dingle, Oscar Ewing, and Mrs. India Edwards (V. P. of Democratic National Committee) have sugar-coated a new approach — they advocate compulsory health insurance. To be sure, these presentations are carefully prepared and are being presented to the people as not being any part of socialized medicine. In booklets that have been prepared by the Democratic National Committee, the sugar pill is given several extra coatings — they assured their followers that (1) this is not socialized medicine, (2) the patient may select his own doctor, (3) laymen and doctors (meaning Mr. Ewing and his selected men) will run the administration plan. One edition bears the caption of "Better Health Than You Can Afford". The other, "Administration Health Program". These have been issued under the auspices of the Democratic National Committee. You will soon receive your copies and I hope you will spend some time in serious thought when you read them. You will have no trouble in recognizing the same old pill with a different color and flavor.

SET FEES

If this plan of the Federal Security Administration and the Democratic National Committee is put into force, a federal governing board will set your fees. A federal board will accept or reject your reports (you can bet they will be made in at least five copies). With this much administrative power, the desired spearhead into medicine has been made and the first step of federalizing or socialization of medicine has been accomplished. Mr. Ewing more recently has labeled anyone who prefers to arrange for their own medical care and pay for it themselves as "stupid and dangerous". Mr. Ewing further says that necessarily great power must be put into the hands of administrators. That means then, that anyone who opposes this "great power" is labeled as "stupid and dangerous". We believe, not only as doctors but as average citizens, that such power has no place in America nor has any measure which would create such authority. It becomes the personal problem of every physician to see that the American public cannot be dramatized to believe that federalization has any place in our continued program.

NATION-WIDE ADVERTISING

Recently you have seen in your own home papers the beginning of a nation-wide advertising campaign in an effort to carry the doctor's side of compulsory health insurance to the public. The jittery advocates of compulsory health insurance, even though they claim public support for it, even though they have spent millions of dollars of federal funds propagandizing for it, have suddenly started bitterly denouncing doctors for this program of carrying the case to the public. It is quite evident that they are afraid for this issue to be presented for public discussion. In the final analysis the people will decide what is to be done. We have selected the newspapers as the best medium of legitimate advertising for public knowledge and discussion. Again, Oscar Ewing attempts to belittle the advertising program with deliberate and gross misrepresentation. He announces that twenty million dollars will be spent on the AMA advertising program. The actual cost is slightly in excess of one million dollars. Tie-in advertising sponsored by other groups such as the insurance companies, pharmacy groups, etc., may equal or double the amount spent by the AMA. We accept this as a great tribute to the principles set forth by the doctors.

VOLUNTARY PLAN

Organized medicine claims to support one plan — that plan is the voluntary pre-payment plan. It can be purchased from many commercial insurance companies who are selling it on a keen competitive basis. Though it is a fact that approximately seventy million people are partially covered by this type of insurance, it has not yet reached the ideal of perfection. As time progresses, competition becomes keener, more inclusive policies are going to be available and at a price fitting the income of any family or group. At the present time, I know a plan that was specifically made for protection of those families falling below $3000 yearly income. It pays complete hospital bills and doctors fees without additional charge to the patient. This plan includes certain lowering of fees because its prime interest is to see that this group is as well protected as those in a higher bracket.

I am told that it will soon cover partial fees for home and office visits and diagnostic services outside the hospital. As fast as growth will allow, these will also be completely covered. This plan will compare favorably with other health plans such as Health Insurance Plan of New York, Permanent Health Plan of California and, others. When competition produces insurance policies of this type over all states, the American doctors can deliver to patients in any income bracket full and complete medical services which then will indeed be "better health than you can afford". Through the voluntary way we can leave Federal control out of the entire picture.

A FEW SUGGESTIONS

I have a few suggestions for these federal political meddlers. (1) Stop spreading federal funds attempting to bulldoze the public into something they do not want. (2) Since subsidization is the order to the day; —allow private enterprise insurance companies to produce an all inclusive policy for a price within every income range and (3) Let government monies offset a deficit if a fair profit cannot be made. Ask your Senator how much deficit was incurred during World War II on life insurance policies to the armed forces. Ask him how much could have been saved if this same program had been handled by qualified insurance companies. If he knows the answer it will be an astounding figure that runs into millions. Then ask him to estimate how many billions would be lost if such compulsory health insurance were inaugurated on a nation-wide basis.

In conclusion may I summarize with the recommendation that medicine be permitted to continue its advancing program of achievement unhampered by regimentation and governmental control. It is only through an unrestrained but competitive program that we can see our way to further advance health for this country and the entire world.

Effect of Choline as a Lipotropic Agent in the Treatment of Human Coronary Atherosclerosis

"A group of 230 patients were studied who were admitted in consecutive order to the Los Angeles County General Hospital medical wards and were proven to have acute coronary thrombosis with myocardial infarction. . . . One hundred and fifteen of the patients served as 'controls'; these were discharged from the hospital on recovery after an average of 6 weeks, and were then followed over a 3-year time period. They were not given choline. . . . The other group of 115 patients represented those who were admitted in alternate order to the Los Angeles County General Hospital for their first acute myocardial infarction. After they were discharged from the hospital they were placed on choline treatment over a 3-year period, and followed in the Research Clinic of the Hospital. Fifty-two patients were given choline for 1 year, 35 patients took choline for 2 years, and 28 patients were given choline for 3 years. The dose of choline varied from 6 to 32 g. daily per individual depending on their tolerance for the drug and the degree of hypercholesterolemia present. Choline bicarbonate was used in this study.

"*Results.* Of the 115 control patients 35 patients or 30% had died after 3 years. . . . In the choline-treated series of 115 patients, 14 patients or 12% had died after 3 years."—Morrison, L.M., and Gonzales, W.F., *Proc.Soc.Exper.Biol.&M.* 73-37, 1950.

THE SPLENDID WORK OF EL PASO TUBERCULOSIS ASSOCIATION

This is the season when annually SOUTHWESTERN MEDICINE carries the seal of the American Tuberculosis Society on its cover. Millions of Americans buy these Christmas Seals and by so doing further a great work. Tuberculosis is still the "white plague," still dreaded and still dangerous. But slowly the threat is being reduced, and we can hope that eventually tuberculosis will be conquered.

In this successful offensive the major burden is carried by hundreds of local tuberculosis associations throughout the nation. A prime example is the El Paso Tuberculosis Association, which is ably directed by Mrs. Gertrude Gardiner.

Over the last five years the El Paso society, which operates an automobile X-Ray unit, has taken no less than 100,772 chest X-Rays in the area which the association serves. This area consists of three far West Texas counties, El Paso, Hudspeth and Culberson. The last two are sparsely inhabited, mountainous and wild, with ranching and some farming the principal livelihoods, and distances between ranches very great.

REMOTE RANCHES

Yet in 1950 El Paso Tuberculosis Association did as thorough a job of covering the most remote and mountainous ranches of Hudspeth and Culberson Counties as it did the industries and schools on the paved streets of El Paso.

During the 1949-1950 fiscal year El Paso Tuberculosis Association made a total of 26,761 chest X-Rays in the three counties. The X-Ray unit visited schools, ranches, industrial plants, La Tuna Federal Prison Farm, and many other institutions.

A total of 190 active or suspicious cases were picked up. But these 190 cases were only a beginning. In each a nurse from the Association's clinic visited the home in question and pursued the tuberculosis to its source. In one typical instance, starting from a single suspicious X-Ray film, the nurse made 64 additional examinations and located four more active cases. It is such efforts as these which are defeating the spread of tuberculosis.

HEART, CANCER DISEASES

But tuberculosis is not all that the Association's X-Rays discover. Last year 77 heart cases were identified on the films and referred to the proper medical authorities; and 44 cancer, tumor and other pathological cases were located and turned over to appropriate medical authority.

Your purchases of Christmas Seals pays for this great and important service. Moreover, most of the money you spend on seals stays right at home to help carry on the work. Only 12 per cent goes to the state and only six per cent to the federal associations for administrative and organizational work. This work is most important to insure uniform procedures throughout the nation and to give future workers proper training, and to keep present workers up-to-date on latest developments. Almost none of the fund is devoted to research which is carried on at federal expense by the U. S. Public Health Service.

We are winning the battle against Tuberculosis. Make victory certain by buying Christmas Seals.

INJURIES TO THE ELBOW REGION

By I. W. Kaplan, M. D., F. A. C. S.,
Assistant Clinical Professor of Surgery,
Louisiana State University School of Medicine,
New Orleans, La.

Fractures in the region of the elbow are common injuries; and, if proper treatment is applied along anatomical lines, a good result can be obtained in almost every case.

Without going into great detail of the structure of the elbow joint, a few anatomical points might be recalled to advantage.

The lower one fourth of the humerus is broadened and flattened from before backwards and terminates in the internal and external condyles, which are separated anteriorally by the coronoid fossa and posteriorally by the olecranon fossa. The articular surface lies below and between the condyles. It is divided by a median ridge into a larger internal surface, the trochlea and a smaller lateral surface, the capitellum. The trochlea articulates with the greater sigmoid fossa of the ulna. The capitellum articulates with the head of the radius. The articular surface is directed downward and forward at an angle of about 45 degrees.

ULNA THICKENED

The ulna is thickened in its upper one half and terminates above in the coronoid and olecranon processes which are separated by the sigmoid fossa which articulates with the trochlea of the humerus. The brachialis anticus muscle inserts on the coronoid process. On its lateral side is a smaller articular surface, the lesser sigmoid fossa, which articulates with the head of the radius.

The upper end of the radius consists of a disc shaped head and a short cylindrical neck. It articulates above with the capitellum and below with the lesser sigmoid fossa of the ulna and is held to the ulna by the orbicular ligament.

AXIS TRANSVERSE

The axis of the elbow joint is obliquely transverse. In the extended position and supination the humerus and ulna form an angle of five to 20 degrees outward, known as the carrying angle. In the flexed position the ulna swings in towards the mouth.

The cardinal points of the elbow are formed by the internal and external condyles and the tip of the olecranon process. In the extended position the tip of the olecranon process touches the mid-point on a line drawn between the condyles. With the elbow flexed at 90 degrees, they form an equilateral triangle. The relation of the cardinal points is most important in making a clinical diagnosis of a fracture in the region of the elbow. By their displacement and disturbed relations one may differentiate between a supracondylar fracture and a posterior dislocation of the ulna, as well as fractures of the individual condyle and fractures of the olecranon process.

In severe injuries about the elbow joint, such as compound comminuted fractures, in which it is practically hopeless to obtain motion, it is important that the elbow be immobilized in such a position that the patient will have a useful extremity, should the joint become fixed. The elbow should be immobilized at right angles or at 120 degrees extension, with the hand in the mid-position between pronation and supination. This is known as the position of function.

MANY TYPES

Because the elbow joint is made up of three bones and their processes, many types of fractures occur in this area. Those common to the lower end of the humerus are: the extension types which include the supra-condylar, trans-condylar or di-condylar and epiphyseal fractures, the flexion type; inter-condylar or T type; fractures of the external and internal condyles. Types common to the upper end of the ulna are: fractures of the olecranon and coronoid processes; fracture of the upper end of the ulna with dislocation of the head of the radius, also known as Monteggia's fracture. Types common to the head of the radius are: fractures of the head and neck. The most common dislocation in the region of the elbow is the posterior dislocation of the ulna.

The diagnosis of a fracture in the region of the elbow should be made only after a careful physical and X-ray examination. In examining the elbow, both elbows should be exposed and compared, noting any swelling or deformity. Test motion at the elbow for extension, flexion, pronation, supination and medial and lateral stability. This should be done very gently in order to avoid increased damage of the soft parts. The relation of the cardinal points should be determined. The radial pulse should be palpated and the circulation in the forearm and hand noted. A neurological examination should also be made noting any motor or sensory changes. In the extension type of supra-condylar fractures the median nerve may be injured. In fractures of the medial condyle, the ulna nerve may be injured or later be caught in scar tissue and callus.

ACCURATE DIAGNOSIS

While it is possible to make a fairly accurate diagnosis of most injuries in the region of the elbow by physical examination, it is not possible to determine the exact lines of the fracture and the character of the displacement. Then too, more than one fracture might be present. In all but the simplest injuries about the elbow, X-ray studies should be made before and after treatment. In children the epiphyses are very confusing. It is advisable to make X-rays of the opposite elbow for comparison.

EXTENSION FRACTURES

The extension fractures which include the supracondylar, trans-condylar and epiphyseal separations, are especially common in children. They are incurred by falling on the outstretched hand, with the elbow partly flexed. The fracturing force is transmitted up the bones of the forearm to the lower end of the humerus. When displacement occurs it is characteristic and resembles a posterior dislocation of the elbow. The distal fragment is displaced backwards by the fracturing force and pulled upward by the triceps muscle. The proximal fragment projects into the cubital space. There may be medial or lateral displacement depending upon the fracturing force. The fracture line in the A.P. view is roughly transverse, while in the lateral view it is usually oblique.

These fractures are usually accompanied by a great deal of swelling due to hemorrhage and injury to the

soft parts. The bleeding comes from the broken fragments, the stripping of the periosteum, anteriorally and posteriorally, of the proximal fragment and the tearing of the joint capsule. Injury to the soft parts is caused by the sharp proximal fragment projecting in to the cubital space. The brachial artery and vein and the median nerve might be injured.

REDUCTION AND FIXATION

The treatment of all types of extension fractures is reduction and fixation in hyperflexion. These fractures should be reduced as soon as possible after injury. Reduction seals off bleeding and immobilization stops injury to the soft parts and reduces swelling. The type of treatment used is governed by the amount of swelling that is present. If the swelling is not marked, the fragments may be manipulated into position by flexing the forearm at right angles making traction on the forearm in the long axis of the humerus. The medial or lateral displacement is corrected. The proximal fragment is pushed backwards, the distal fragment forward. The elbow is then hyperflexed with the hand in mid position between pronation and supination. The strong triceps tendon acts as a splint and prevents slipping of the distal fragment. The radial pulse is checked, and if good, a posterior moulded plaster splint is applied from the upper arm to the metacarpo phalangeal joint of the hand. Circular casts should never be used for this fracture. Plaster fixation is better than bandage or adhesive fixation in that it prevents rotation of the distal fragment. The hand is brought under the chin and held in this position by a hitch around the neck. The elbow should remain in the hyperflexed position for approximately four weeks. At the end of this time it is extended to ninety degrees and further immobilized for two weeks longer. The posterior moulded plaster splint is then removed and active and passive motion is started.

DANGER OF ISCHEMIA

If the swelling is marked it may be impossible to manipulate the fragments into place and hold them there in the hyperflexed position because of the danger of a Volkman's ischemia developing. In such cases some surgeons prefer to immobilize the extremity at right angles or in any degree of extension that will not interfere with circulation to the forearm, until the swelling has subsided, which may take from ten to fourteen days. I prefer to treat these cases by traction for several reasons. It reduces the fracture and lessens swelling; in ten to fourteen days considerable fibrosis might take place and make reduction difficult; in this position there is practically no danger of a Volkman's ischemia developing. The type of traction used was described by Dunlop in 1939. Adhesive strips are applied to the forearm, the elbow is extended to about 160 degrees. Ten to twelve pounds of weight are applied as lateral and upward traction. This amount of weight will correct the overriding and pull the distal fragment upward. A cuff is placed about the mid-arm and a one pound weight attached. This pulls the proximal fragment backwards. The position of the fragments is checked every twenty-four hours with X-rays and minor adjustments made. Usually no anaesthetic is required. The traction is left on about three weeks and by this time the swelling will have subsided and some callus formed. The traction is removed, the elbow is hyperflexed and fixed with a posterior moulded plaster splint as previously described, for approximately two weeks longer.

FLEXION TYPE

The flexion type of supra-condylar fracture of the humerus is rare and is the reverse of the extension type. It is incurred by force being applied to the posterior part of the upper ulna, with the elbow partly extended, or to the lower end of the humerus. When displacement occurs the distal fragment is displaced forward, and pulled upward, the proximal fragment is pushed backwards. There might be medial or lateral displacement depending upon the fracturing force. The swelling is usually not as marked as in the extension type and the fragments can be manipulated into position. Under general anaesthesia the elbow is hyperextended, traction is made on the forearm in the long axis of the humerus. The medial or lateral displacement is corrected, the distal fragment is pushed backwards, the proximal fragment is pushed forward. The elbow is then hyperflexed and immobilized with a posterior moulded plaster splint from the upper third of the arm to the metacarpo-phalangeal joints of the hand, with the hand in mid position between pronation and supination. The after care is the same as outlined for the extension type of fracture.

T TYPE

Intercondylar or T Type Fracture of the Humerus

Intercondylar or T Type fractures of the humerus are more common in adults than in children. These are really supra-condylar fractures with a vertical break between the condyles. They are incurred by falls on the elbow or force applied to the upper ulna so that it is driven upward between the condyles. When displacement occurs, the condyles are separated and pulled backward and upward. The proximal fragment might project between the condyles. This fracture is usually accompanied by a great amount of swelling. With little or no displacement the elbow is immobilized at right angles by a posterior moulded plaster splint with the hand in mid-position between pronation and supination. The hyperflexed position should be avoided because the coronoid process of the ulna tends to separate the condyles. If there is marked displacement this fracture must be treated by either traction or open reduction. The type of traction used is the same as described for supra-condylar fractures with marked swelling. In addition, the condyles are padded with felt and pressure applied with lateral splints to push them together. The position is checked every twenty-four to forty-eight hours and necessary corrections made. When satisfactory position is secured it is maintained for four to five weeks, after which time the traction is removed and the elbow further immobilized at right angles for two weeks longer. Open reduction should be done only as a last resort. The results of surgery have not been good. The fragments are thin in this area, screws and plates are hard to apply and do not hold well.

FRACTURES OF THE EXTERNAL CONDYLE

Fractures of the external condyle are more common than those of the internal condyle. They are incurred by falling on the outstretched hand with the elbow partly flexed. The head of the radius is driven upward against the capitellum, breaking it off. When displacement occurs the fragment tends to be displaced downward and forward. It may also be rotated downward. The method of treatment depends upon the displacement. An attempt should be made to manipulate the fragment into position. Under general anaesthesia the elbow is flexed at right angles with the hand in supination. Pressure is made against the fragment to push it into position. If successful, the elbow is hyperflexed. Pressure of the head of the radius tends to hold it in place. If unsuccessful an open reduction must be performed and the fragment fixed in place with screws or sutures.

FRACTURES OF THE CORONOID

Fractures of the coronoid are incurred as a complication of a posterior dislocation of the ulna or by falls on the outstretched hand with the elbow hyperextended. The coronoid process, in such cases is pulled off by the brachialis anticus muscle. The treatment is hyperflexion. If incurred as a result of a dislocation, of course the dislocation must be reduced.

FRACTURE OF THE UPPER END OF THE ULNA AND DISLOCATION OF THE HEAD OF THE RADIUS

Fractures of the upper end of the ulna and dislocation of the head of the radius are also known as Monteggia's fracture. They usually result from direct violence to the posterior surface of the forearm. To keep the head of the radius reduced it is necessary to immobilize the elbow in hyperflexion. In doing so it is practically impossible to keep the ulna fragments aligned. Most surgeons regard this type of fracture as an operative one.

The ulna fragments must be fixed with a plate or an intra-medullary pin. The head of the radius is then reduced and the elbow immobilized in hyperflexion. This position must be maintained for four or five weeks. If the head of the radius re-dislocates at the end of this time, it should be resected about three months later.

FRACTURES OF THE OLECRANON PROCESS

Fractures of the olecranon process are incurred by falls on the outstretched hand with the elbow partly flexed. The triceps muscle snaps the process over the lower end of the humerus which acts as a fulcrum. If no displacement occurs the elbow is immobilized at 120 degrees extension by a posterior moulded plaster splint for four weeks. If there is as much separation as one-eighth of an inch the prolongations of the torn triceps tendon and the capsule of the joint will dip in between the fragments and prevent union. The fracture should be reduced by open reduction. Holes are drilled transversely through the fragments and the broken ends fixed with wire. If the proximal fragment is comminuted the upper loop of the wire should be placed above the tip of the olecranon process through the triceps tendon. The elbow is immobilized at 120 degrees extension for four or five weeks.

FRACTURES OF THE HEAD OF THE RADIUS

Fractures of the head and neck of the radius are incurred by falls on the outstretched hand with the elbow partly flexed. The head of the radius is driven against the capitellum and a variety of fractures may occur: simple fracture with no displacement; comminution with no displacement; comminution with displacement; fractures of more than one third of the head of the radius with displacement and fractures of the neck. The treatment depends upon the type of fracture. With no displacement the joint should be aspirated and immobilized at right angles with the forearm in supination by a posterior moulded plaster splint for two weeks. When the acuteness of the process has subsided, active and passive motion should be started. In fractures of more than one third of the head and fractures of the neck with displacement the head of the radius should be removed. This can be done by a lateral incision in the long axis of the forearm over the head of the radius. One must be careful not to injure the posterior interosseous nerve, branch of the radial, which would cause a wrist drop.

DISLOCATIONS OF THE ELBOW

Dislocations of the elbow are incurred by falls on the hyperextended elbow. The posterior dislocation is the most common. This injury should be reduced as soon as possible to prevent swelling. Under general anaesthesia the elbow is hyperextended, traction is made on the forearm in the long axis of the humerus. The humerus is pushed backward and the elbow is flexed. The elbow is immobilized at right angles by a posterior moulded plaster splint for two weeks.

CONCLUSION

All fractures about the elbow joint are serious injuries and if not treated properly might result in deformity and loss of function.

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Eosinophilic Granuloma

This disease is a benign, destructive bone lesion. The flat bones are the most common site of involvement. Microscopically, large mononuclear histiocytes and eosinophiles are seen, the latter indicating an early stage of the disease. Symptoms are pain, swelling, and local tenderness, possibly accompanied by slight fever and leukocytosis. Irradiation or curettage are recommended as therapeutic measures.

Meyerding, H. W., et al: Progress in Orthopedic Surgery for 1945: "Metabolic Lesions," Arch. Surg. *60*:172 (Jan.) 1950.

Prostatic Cancer

The Papanicolaou smear technique is wholly unreliable as a routine screening test for prostatic cancer. This method does make possible the recognition of malignant cells in prostatic secretions, but these cells seldom appear in prostatic fluid during early stages of the disease. Careful rectal examination of men over 45 years of age and more frequent and earlier use of open pirneal biopsy are the only dependable diagnostic procedures.

Boyer, W.: Carcinoma of the Prostate; A Cytological Study, J. Urol. *63*:334 (Feb.) 1950.

Metastatic Melanoma of the Brain

Metastatic melanoma may involve all the organs of the body without occurring in the central nervous system, or, rarely, the brain and spinal cord may be the only site affected. Prognosis for patients with melanoma metastatic to the brain is very poor. When the lesion is too extensive for surgical excision, palliative subtemporal decompression is often advocated for the relief of increased intracranial pressure.

Reyes, V., and Horrax, G.: Metastatic Melanoma of the Brain, chir. Scandinav. *99*:259 (Dec. 23) 1949.

RENAL COMPLICATIONS FROM THE SULFONAMIDES

(Crystalluria and Lower Nephron Nephrosis)

By Robert F. Thompson, M. D., F. A. C. S.
El Paso, Texas

The enthusiastic reception which formerly heralded each new sulfonamide preparation as it appeared on the medical horizon has, in recent times, been transferred to the newer antibiotics such as Penicillin, Streptomycin, Aureomycin, Chloromycetin and Terramycin. Despite this waning of wide-spread interest on the part of the profession and lay press towards the sulfonamides, they are still most useful drugs, and when carefully employed in properly selected cases, continue to eradicate infections in dramatic fashion. This is particularly true in urinary infections. In the treatment of pneumonia, meningitis, endocarditis, acute infectious diseases, wound infections, etc., the newer antibiotics are more popular and more efficacious. Many clinicians combine the Sulfonamides with Penicillin, Streptomycin, etc., in treating serious illnesses and infections.

Since the introduction of Sulfanilamide in 1938, it soon became apparent that toxic reactions were undesirable possibilities of the new wonder drugs. The reports of toxic complications and fatalities began to be seen frequently in the literature of the last years of the past decade and the early years of the present one. As the dangers of the sulfonamides became more apparent to the profession and as Penicillin appeared on the scene, less and less reports of complications are recorded in the literature since the middle of the present decade. But complications are still seen. And these are most serious complications, usually, if they warrant urological consultation or attention.

POPULARITY CHANGES

The popularity of the earlier Sulfonamide compounds has changed greatly in the last few years. Sulfanilamide and Sulfapyrine are practically extinct. Sulfathiazole is fast losing favor. Even the combined preparations are slipping in popularity due to the Sulfathiazole content. These drugs have proved to be too toxic and with too frequent undesirable reactions for them to remain in general use.

Recently the Council on Pharmacy and Chemistry of the American Medical Association reviewed the status of Sulfathiazole and compared its untoward reactions with the other Sulfonamides. The incidence of toxic complications of the various drugs were approximately as follows:

Sulfathiazole	18%	untoward reactions
Sulfapyradine	16%	untoward reactions
Sulfanilamide	12%	untoward reactions
Sulfamerazine	7%	untoward reactions
Sulfadiazine	6%	untoward reactions

COUNCIL VOTES

Thus it is seen that Sulfathiazole is the greatest offender concerning toxic reactions. Consequently, since less toxic Sulfonamides are available, together with other new, safer antibiotics, the Council voted to omit Sulfathiazole and Sulfathiazole-sodium from New and Non-Official Remedies. Further, it was decided to omit Sulfathiazole mixtures, also, since such mixtures involved risk of the danger which led the Council to omit the drug itself from N. N. R.

The Council also has voted to omit Sulfanilamide and Sulfapyridine on the ground that these derivatives have been superseded by more effective and less toxic compounds such as sulfadiazine and sulfamerazine. Sulfaguanidine also has been delated because there are now available more effective derivatives for local action in the intestinal tract. The council has further discouraged the local use of all Sulfonamide compounds for topical application because this form of therapy is considered to offer no advantage over internal administration.

SULFADIAZINE

Because of the wide experience with its use, and being definitely less toxic, and with fewer undesirable side reactions, Sulfadiazine is the drug of choice now. Its superiority in action and lowered toxicity is the principal reason for the lessening of interest in the other forms, together with the appearance of the newer antibiotics, as mentioned previously. It is to be preferred over its nearest rival, Sulfamerazine, because it is excreted more rapidly than is Sulfamerazine.

MIXTURES GAINING FAVOR

Even though Sulfadiazine is the drug of choice at the present time, certain mixtures of Sulfonamides are gaining favor because such mixtures have been shown to reduce the incidence of crystalluria when they are administered in a dosage of total Sulfonamides equivalent to the dosage for the drugs given singly. These mixtures are in equal parts of Sulfadiazine and Sulfamerazine and mixtures in equal parts of Sulfadiazine, Sulfamerazine and Sulfamethazine. The Council on Pharmacy and Chemistry has recently accepted these new preparations. Another popular and efficacious mixture is one composed of equal parts of Sulfadiazine, Sulfamerazine and Sulfacetimide (Tricombisul). We have used this mixture in various urinary infections, with excellent therapeutic results and with no toxicity of appreciable significance. As mentioned previously, any mixture containing Sulfathiazole is definitely without favor and unacceptable for inclusion in N. N. R.

GANTRISIN

Recently Gantrisin (NU-445) has been introduced and this new Sulfonamide has been found very effective in urinary infections, and very harmless. Carroll (12) and his associates have investigated this new drug very thoroughly as has Lazarus and Schwarz (13). It was found to be very effective in urinary infections due to E. Coli, B. Pyocyeneus and certain intermediate organisms. It was the drug of choice with infections due to Proteus. Besides being a most potent antibacterial agent with marked therapeutic value, an added virtue is that the drug has a very low toxicity. It can be administered orally or parenterally without local or systemic reactions. It's excellent solubility obviates the need of concomitent alkali medication, and of forcing fluids. No instance of crystalluria, or hematuria were noticed in either study. Carroll found no nausea, allergic reactions, increased N. P. N., or anemia in any of the patients taking the drug.

Our own personal experience with Gantrisin has been very pleasing. It's effectiveness in eradicating urinary infections due to E. Coli and certain intermediate organisms has been very striking. It has proved

most beneficial in instances where Sulfadiazine and Penicillin have failed. No toxic or allergic reactions have been encountered. No concretions or blood cells have been found in the urine nor has the urine output been diminished in any of our patients taking Gantrisin.

Like all new drugs, procedures or techniques which are introduced into Medicine, time alone, after thorough investigation and general employment by many physicians, will determine the ultimate worthiness of this newcomer. At the present time Gantrisin appears most promising.

SULFACETIMIDE DISCUSSED

Another Sulfonamide, Sulfacetimide, has been employed very widely following the very favorable report of Lehr (54) in 1945. It has several other advocates of its effectiveness with urinary infections in the literature, also. It is definitely less toxic than many of the earlier compounds, has a high solubility and is extremely useful in combatting various urological infections. It is widely used. In our experience, we have not encountered any complications from Sulfacetimide.

Sulfadiazine, even though it is the current favorite in general use now, whether used alone or in the various mixtures in which it is the most important and probably the most efficacious ingredient, is a dangerous drug, potentially. It is relatively harmless if administered correctly, but it can damage the renal system severely if given without adequate fluids and proper alkalinization. This will be discussed more completely later in this presentation.

TOXIC REACTIONS

The Sulfonamides may produce the following Toxic reactions:

1. Fever
2. Skin Lesions
   (a) Erythema nodosum
   (b) Rashes
3. Calculi (crystalluria-mechanical obstruction)
4. Nephrosis (renal damage without mechanical obstruction-Hemoglobinuric nephrosis, toxic nephrosis or Lower Nephron Nephrosis)
5. Delirium
6. Nausea and Vomiting
7. Conjunctivitis
8. Hemolytic anemia
9. Leukapenia
10. Acute Leukemia
11. Agranulocytosis
12. Arthritis
13. Arthralgia
14. Neuritis
15. Hepatitis, etc.

FACTORS OF PRECIPITATION

It is generally agreed by all investigators that renal complications of sulfonamide therapy are the result of poor solubility. The more insoluble the product, the greater the possibility of renal complications. The factors influencing precipitation of sulfonamide crystals are, as follows, according to Barnes and Kawarchi (9).

1. Concentration of drug in urine.
2. Degree of acetylation of the drug.
3. Urinary stasis.
4. pH of the urine.
5. Temperature of the urine.

TWO TYPES OF INJURY

The kidneys may be damaged in two ways by the Sulfonamides.

MECHANICAL TYPE (Crystalluria)

The crystals of the less soluble acetylated forms cause bleeding by irritation of renal epithelium: or plugs of crystals obstruct the renal tubules, pelvis, ureters and sometimes the urethra.

TOXIC TYPE (Toxic Nephrosis-Hemoglobinuric Nephrosis Lower Nephron Nephrosis)

In this type toxic effects on the kidney parenchyma are produced by the drug. Histologically, areas of focal necrosis occur with degenerative changes in the tubules and with interstitial edema. This toxic injury to the kidney tubules is similar to that seen in bichloride of mercury poisoning. Sulfonamide sensitivity possibly accounts for a considerable proportion of cases of the toxic type. Renal failure may occur after a single dose of the drug.

This toxic type of effect on the kidney by the Sulfonamides may be considered under another name, one which has great vogue in the literature at the present time namely, lower nephron nephrosis. In some instances the mechanical type and toxic type may both be present. Particularly is this true in cases of sulfadiazine injury to the renal system when the drug has been administered improperly.

LOWER NEPHRON NEPHROSIS

Following the excellent article by Lucke (36) in 1946, in which he described the condition of Lower Nephron Nephrosis, and since Sulfonamide intoxication is one of the causes, a brief consideration of this subject appears in order.

This kidney condition is not new. It has been known by other names previously. It was seen with increasing frequency in World War II. Attention was first focused on the subject by British Pathologists who described a distinctive finding in patients who died after severe crushing injuries during the bombardment of the English cities. It was first called "the crush syndrome" and was found regularly in patients who had been buried beneath falling walls etc., or otherwise crushed or horribly injured. The kidneys were found to have a distinctive appearance at autopsy and studies on microscopic sections of the renal parenchyma gave characteristic findings. It was soon found that battle wounds, shock and severe burns gave the same renal picture, and later many other causes were discovered.

CAUSES LISTED

Lower Nephron Nephrosis may be caused by the following:

1. Battle wounds
2. Crushing Injuries
3. Shock
4. Burns
5. Blood transfusion reactions
6. Transurethral Prostatic Resections (Intravascular hemolysis)
7. Hemorrhage
8. Abdominal operations
9. Sulfonamide Intoxications
10. Heat Stroke
11. Gas Gangrene
12. Trench Foot
13. Blackwater Fever
14. Variety of poisons (Mushroom, vegetable and chemical agents) (bichloride of mercury)
15. Hemolytic anemia
16. Uroplacental damage
17. Alkalosis, etc.

Lower Nephron Nephrosis cases run a characteristic clinical course, slowly developing azotemia, oliguria and in the severe cases anuria and death. The kidney is enlarged with a pallor, and often with red

streaks present in the medullary striations. Microscopically, the principal findings are degeneration of the distal convoluted tubules with a deposition of brownish-red granular material in these tubules; interstitial inflammation, and practically no changes in the glomeruli.

CLINICAL MANIFESTATIONS OF LOWER NEPHRON NEPHROSIS:

Renal insufficiency is noticed with diminution of urinary output to less than 500cc daily, and frequently anuria is present. The urine is smoky or bloody. The specific gravity is low, usually about 1010 and the reaction is strongly acid.

The urinary sediment contains granular and pigmented casts and red blood cells, and spherules of hemoglobin. There is a rapid rise in the non-protein nitrogen and blood potassium and phosphates, with lowering of blood chlorides.

In renal damage associated with sulfonamide therapy there is a distinct type of tubular dysfunction in which sodium chloride is reabsorbed in excess of water. Consequently, there is a rapid rise in serum sodium and chloride values to extremely high levels following the onset of diuresis. Cerebral edema with death may ensue. Consequently, it is readily seen that the therapy may differ concerning salt replacement in cases of Lower Nephron Nephrosis caused by Sulfonamide intoxication.

As the blood chemistry values rise, nausea, vomiting and hiccoughs may ensue. And later convulsions may take place during severe anuric states. Hypertension usually develops as oliguria and azotemia appear.

The patients who survive Lower Nephron Nephrosis re-establish normal renal function in approximately eight to sixteen weeks. There are no lingering, kidney-failure deaths. The patient dies within twenty days from the onset or recovers complete renal function. Lucke (36) and also Burwell, Kinney and Finch (53) made this same observation. In this presentation we are intersted in Lower Nephron Nephrosis as caused by Sulfonamide intoxication, solely. Nausea and vomiting and hiccoughs may be present, with convulsions occuring in the severe cases during the anuric state.

PATHOLOGICAL ANATOMY OF TOXIC TYPE (Lower Nephron Nephrosis)

Grossly the kidneys are swollen and increased in weight, possibly to twice the normal size. The cortex is pale. The striations in the medulla are increased and dark-red in color. Microscopic examination shows:

1. Degeneration and necrosis of thick loops of Henle and the distal convoluted tubules.
2. Heme casts in the lumen of the tubules.
3. Edema and inflammation of intertubular tissue.
4. Thrombosis of adjacent veins.

PATHOLOGY OF MECHANICAL TYPE (Crystalluria)

The precipitated crystals first injure, by pressure, the lining epithelium of the collecting tubules. Cloudy swelling first occurs and then granular disintegration with vacuolization, loss of cell outline, nuclear degeneration and finally disappearance of the epithelium. The tubules become markedly dilated. Later they fill with cellular debris and casts. The glomerular spaces are dilated, also, and they may contain precipitated crystals. Hemorrhage and round cell infiltration take place in the peritubular tissues and the walls of the tubules may be ruptured by the accumulated concretions of sulfonamide crystals. Calcium deposits in the tubules is a final manifestation of crystalluria or mechanical type pathology and this represents a permanent injury to the parenchyma.

Crystalluria per se is not necessarily an indication of serious renal damage and can be remedied by the temporary withdrawal of the drug, forcing of fluids and adequate alkalinization.

DIAGNOSIS OF RENAL DAMAGE FROM SULFONAMIDES

When a patient who is being given a sulfonamide drug develops one or more of the following symptoms, renal damage should be suspected and appropriate steps taken to properly evaluate the problem at hand and institute the indicated treatment.

(1) Gross or microscopic hematuria
(2) Crystalluria
(3) Lowered renal function
(4) Azotemia
(5) Enlarged kidney, one or both, with tenderness on palpation
(6) Oliguria
(7) Anuria

The earliest sign is microscopic hematuria. The urine of patients receiving Sulfonamide compounds should be examined daily, particularly those patients who are running temperature with increased tendency towards dehydration. Casts and pus cells may be found, also. Sulfonamide crystals in the urine are usually present. But the presence of crystals in the urine without other signs or symptoms does not necessarily mean kidney damage. Abeshouse and Tankin (1) who have had great experience with such cases and who have written extensively on the subject after wide clinical experience and investigative work, emphasize this point. Renal complications in certain cases, occur after a small single dose, although prolonged therapy is usually necessary for damage to be brought about.

When oliguria is noticed with a patient receiving Sulfonamide therapy, and who possibly complains of backache or pains in one or both kidney regions, renal damage from the drug must be suspected. If examination of the urine reveals hematuria and crystalluria the suspicion is confirmed. The blood chemistry will be found elevated at this point and it is imperative that cystoscopy and further study be instituted without delay. Employment of the cystoscope confirms the diagnosis of renal damage or the presence of obstructing concretions in the pelvis or ureter. In some instances packed crystals may be seen filling the ureteral orifice or protruding from it. Even though the crystalline masses may be packed in the pelvis, ureter or bladder they may not be visualized on an X-Ray film as these uroliths usually do not contain enough calcium salts to make them radio-opaque.

PROPHYLAXIS

It is of utmost importance to prevent renal complications during Sulfonamide therapy and the following precautionary measures are advocated by Abeshouse and Tankin (1) and also by Zide (7) after extensive clinical and experimental study:

(1) Careful observation of the patient.
(2) Determination of previous sulfonamide medication, sensitivity or idiosyncrasy.
(3) Evaluation of the state of renal function prior to administering the drug.
(4) Evaluation of the state of hydration (water balance) (output of urine must be adequate).
(5) Administration of the drug in adequate dosage.
(6) Administration of adjuvent alkali therapy so that pH of urine is maintained at 7.5 or more.
(7) Determination of Sulfonamide blood level at frequent intervals.

When treating elderly people, infants and children, Orientals or negroes, one should be on the alert for possible reactions, as it has been shown by various authorities that these groups have an increased tendency towards renal complications. Tropical climates or summertime whether where perspiration is increased, also tend to improve the chances for toxic renal reactions.

RENAL FUNCTION

Renal function determination is very important previous to the administration of Sulfonamides to a hospital patient. In office practice where the patient is not acutely ill this may not be absolutely necessary if the specific gravity of the urine is carefully evaluated. A specific gravity of 1020 or higher may be considered as indicating a normal renal function, if the urinalysis is otherwise unremarkable. A specimen should be observed for degree of concentration frequently during the course of treatment.

It is common knowledge that toxic renal complications are very prone to occur in dehydrated patients. Especially, is this true if they are also running a temperature. Consequently, a careful record of fluid intake and output can be quickly ascertained. And if a decrease is present the drug can be discontinued before oliguria or anuria developes. The amount of fluid intake should be at least 3 quarts daily with an output of approximately 1½ quarts of urine in 24 hours. When periodic Sulfonamide blood levels are made and the rise is above 12mg. per cent, this should be considered as a danger signal and appropriate steps should be taken.

ADEQUATE ALKALINIZATION

Probably the most important prophylactic measure to prevent toxic complications from the Sulfonamide compounds is adequate alkalinization. Jensen and Fox (8) have shown that sulfadiazine is relatively soluble in an alkaline medium, but when the medium is acidified, the drug which is relatively insoluable in acid media, is thrown out of solution. Increasing the fluid intake can possibly double the quantity of the drug excreted. But raising the pH to 7.5 or above will increase the urinary solubility 3 to 10 times. Consequently, it is imperative that the urine be kept alkaline at a pH of 7.5 or more. This can be accomplished in a very simple manner. By making it a routine procedure to administer an equivalent dose of soda bicarbonate with each dose of Sulfonamide.

DAILY URINALYSIS

Briefly and in simple fashion, the drug should be given with an equal amount of soda bicarbonate, and two large glasses of water should be consumed with each dose, with a glass of water approximately at hourly intervals between doses. The patient should be kept under close observation and evidence of renal complications carefully anticipated. Daily urinalysis and frequent blood level determinations should be done on the more seriously ill hospital patients.

Regarding the management of ambulatory cases; they should be seen daily while they are taking the drug. Careful directions as to adjuvent alkalis and copious fluid intake should be given. The dosage schedule should be explained explicitedly and it is preferable to give written instructions to forestall any chance of error. In several of the cases of renal complications we have encountered, the cause of trouble was failure to properly understand instructions. One person took four tablets every two hours instead of two tablets every four hours as he had been told Another was told to take two tablets every hour for three doses and then increase the interval to four hours. Instead she took two tablets every hour until her prescription was consumed, and anuria had appeared.

FLUID INTAKE

The patient should understand about the sodium bicarbonate which is to be taken with the Sulfa tablets and about the copious fluid intake. They should understand about their fluid output and be told to discontinue the drug if the urine quantity appears to be decreased in any approximate six hour interval.

Many physicians, probably wisely, dispense Sulfa tablets to office patients, giving them just enough to last until the next appointment, and no more. They have discovered that it is very dangerous to hand a patient a prescription for several dozen Sulfa tablets and have him embark on an unsupervised, therapeutic regeme for the next several days. Many of the cases of renal damage we have seen had their origin in this way. They were patients who kept on taking the drug improperly, at home even after danger signals had appeared. It must be remembered that many patients are difficult to control. Some are obstinate and many will not cooperate. Others are contrary and will invariably fail to return for observation. The prescribing of only enough Sulfa tablets to last until the next appointment will prevent such individuals from injuring themselves, should they be inclined to continue taking the medicine improperly, and over too long a time.

TREATMENT

When it is recognized that renal damage has occurred during Sulfonamide therapy, (hematuria, renal pain or colic, tenderness and enlargement of either kidney, oliguria or anuria, increased nitrogen retention, etc.,) the drug should be discontinued immediately. Heat should be applied to the kidney areas, preferably in the form of diathermy.

It is desirable to ascertain, if possible, which type of renal pathology is present, eg.,

(1) Mechanical type (crystalluria), or
(2) Toxic type (Lower Nephron Nephrosis)

TREATMENT OF MECHANICAL TYPE (CRYSTALLURIA)

With the mechanical type (crystalluria) sulfa crystals and blood cells will be found in the urine, renal colic or pain in the kidneys will be present, and the kidneys will be enlarged and tender to palpation.

IMMEDIATE CYSTOSCOPY

In such cases immediate cystoscopy is indicated with catheterzation of the ureters and lavage of ureters and renal pelves with hot 5 per cent Sodium Bicarbonate solution. The catheters should be left in place for continual drainage after the concretions have been dissolved, and X-Ray studies can be made to ascertain the presence of any remaining concretions. In some instances the ureters may be packed so firmly with crystalline masses that is impossible to insert a catheter in the ureteral orifice. In such a case, the nose of a Garceau catheter can be pressed against the orifice and, with an assistant continually injecting hot Sodium Bicarbonate solution, some of the solution can be made to flush the lower ureter with dissolution of the impacted crystals. As the nose of the catheter is manipulated deeper into the orifice the effects of the hot irrigations are obtained higher in the occluded ureter.

URETERS IRRITATED

Sometime the ureters have been so irritated by the packed crystalline masses of concretions that, even though the hot irrigation solutions have dissolved the crystals, spasm is present to such an extent that they cannot be catheterized, successfully.

Following the cystoscopy and renal lavage, fluids should be pushed both orally and intravenously with alkalinazation of the patient. Sodium Bicarbonate, 10 to 20 grams orally in 24 hours, is a simple and effective method of alkalization. Dextrose solutions 5-10 per cent in Saline or water can be used to increase the fluid intake which should amount to four or five Liters in 24 hours. If there is edema or suggestion of

edema the fluid intake must be reduced or discontinued, and further fluids administered very carefully.

As mentioned previously, crystalluria per se is not an indication of serious renal damage and can be remedied by the discontinuance of the drug, forcing of fluids, and adequate alkalinization.

To summarize; The treatment of the mechanical type of renal injury (crystalluria) is as follows:

(1) Discontinue Drug.
(2) Immediate cystoscopy with lavage of ureters and pelves with hot water or hot 5 per cent Sodium Bicarbonate Solution.
(3) Force fluids orally and intravenously.
(4) Thorough Alkalinization.
(5) Diathermy over kidneys.

RADICAL PROCEDURES

In severe cases with bilateral involvement where, despite cystoscopic lavage, anuria persists (and also with rising blood nitrogen values) more radical procedures must be considered to prevent certain fatality, such as nephostomy and decapsulation.

In our personal experience there have been no instances of continuing anuria after cystoscopic maneuvers. In every case of crystalluria, kidney function has been restored by the prompt use of the cystoscope.

TREATMENT OF TOXIC TYPE (Lower Nephron Nephrosis)

When the toxic type of renal damage is recognized, the treatment is different from that carried out for the mechanical type of injury. The differentiation between the two types may not be an easy distinction. Both types of injury may possibly be present at the same time.

CLINICAL FINDINGS

The classical picture of the toxic type (Lower Nephron Nephrosis) gives the following clinical findings as described previously:

(1) Oliguria or anuria.
(2) The urine is smoky or bloody with low specific gravity and the reaction is strongly acid. The sediment contains granular and pigmented casts and red blood cells and spherules of hemoglobin.
(3) Absence of Sulfa crystals in urine sediment.
(4) Azotemia. The rise in non-protein nitrogen values is very rapid.
(5) Development of hypertension.
(6) Elevation of blood potassium and phosphates.
(7) Lowering of blood sodium chlorides (rapid rise during diuresis).
(8) Nausea and vomiting.
(9) Hiccoughs.
(10) Convulsions during severe anuria state.

THREE PHASES OF TREATMENT

Thorn (11) states that the treatment of Lower Nephron Nephrosis is best considered under these categories:

(1) Emergency.
(2) Maintenance, during the phase of oliguria and anuria.
(3) Reparative during the early phase of diuresis.

EMERGENCY PHASE

In the emergency period when shock may be present the restoration of blood volume is most important. Transfusion of whole blood is necessary at this period which is less liable to be seen in lower nephron nephrosis from Sulfonamide intoxication as compared with the same condition resulting from trauma, hemorrhage and other causes. Transfusions of whole blood reduces the renal vasoconstriction and ischemia and are invaluable at this time.

MAINTENANCE PHASE

During the maintenance phase while oliguria or anuria are present fluids should be restricted to minimum needs and the basic caloric requirements of the patients should be provided. The restriction of fluids is most important. In most instances 1000 to 1500 cc. of fluid in 24 hours is adequate. (This is just the opposite to the treatment of the mechanical type (crystalluria) in which fluids are pushed vigorously). There is great danger in employing too great a fluid intake. The misconception of "flooding" the patient and thereby hoping to increase urine production has probably resulted in the death of many patients who otherwise may have survived. The fluids must be carefully restricted so that there will be no gain in body weight during the period of renal failure or cerebral or pulmonary edema may be produced with death of the patient.

SELF-LIMITED DISEASE

The concept that lower nephron nephrosis is a self-limited disease must be kept in mind. If the patient can be tided over a period of seven to fourteen days, healing and regeneration of kidney tissue usually begins to take place at about this interval of time with the restoration of some degree of renal function and urine secretion. This fact should be remembered when operation on the kidneys is being considered. Undoubtedly many decapsulation operations have received credit for curing patients who probably would have begun to improve with gradual return of renal function and urine secretion, had sufficient time elapsed for the healing processes in the kidneys to have manifested themselves before surgery was employed. Thus any procedure which is carried out too soon many receive undue credit for clinical improvement. Thorn emphasizes the fact that the indications and merits of decapsulation cannot be well established until adequate control studies with unilateral operation and ureteral catheterzation have been made.

REPARATIVE PHASE

Upon the onset of diuresis, as mentioned previously, in lower nephron nephrosis due to Sulfonamide damage, there is a peculiar type of tubular dysfunction in which sodium chloride appears to be reabsorbed in excess of water. Thus as urine secretion begins again, there is a very high rise in serum sodium and chloride values. To prevent cerebral edema and death at this time large quantities of sodium chloride-free fluid must be administered. It is very evident that careful watch must be kept on the daily serum chloride determinations to detect this type or reaction when it occurs.

CONTINUOUS GASTRIC LAVAGE

In the treatment of continuing uremia peritoneal lavage and the artificial kidney have been employed beneficially. We have had no actual experience with either of these heroic measures. However, we have used continous gastric and duodenal lavage with favorable results. The procedure is simple and was described by Vermooten and Hare (47). Several cases in complete anuria have been tided over with this procedure, along with transfusions, until the kidneys began to function.

To summarize, the treatment of the toxic type (Lower Nephron Nephrosis) is as follows:

1. The administration of adequate whole blood to restore a normal circulating volume during the period of shock.
2. The careful restriction of total fluids so that

no gain in body weight is observed during the period of anuria. In most patients 1000 to 1500 cc. of fluid per 24 hours is adequate in the absence of fever or fluid loss from vomiting, diarrhea, etc.

3. The provision of as high a caloric intake as possible; during the early stage of anorexia and vomiting 15 per cent glucose solution as an infusion will reduce endogenous protein breakdown.
4. The use of small quantities of plasma (½ unit) of normal human serum albumin (10 to 15 gm) in the glucose solution to maintain blood volume and to prevent to some extent excessive fluid dissipation into the extracellular spaces; intravenous albumin and plasma may reduce endogenous nitrogen breakdown somewhat.
5. Digitalization at the first evidence of cardiac enlargement or pulmonary congestion.

SUMMARY

1. Every patient receiving Sulfonamides should be under close and constant surveillance for possible toxic renal complications.
2. Adequate alkalinization and copious fluids are necessary as prophylactic measures.
3. The evidence of renal complications are as follows:

   (1) Gross or microscopic hematuria
   (2) Crystalluria
   (3) Renal colic
   (4) Enlarged, tender, painful, kidneys
   (5) Lowered renal function
   (6) Azotemia
   (7) Oliguria
   (8) Anuria

4. Upon the appearance of toxic renal complications the type of kidney damage present should be ascertained, if possible, e.g.;

   (1) Mechanical type (crystalluria)
   (2) Toxic Type (Lower Nephron Nephrosis)

5. The treatment of the mechanical type (crystalluria) consists of the prompt use of the cystoscope with renal and ureteral lavage; forcing of fluids orally and intravenously; thorough alkalinization and heat applications to kidney areas.
6. The treatment of the Toxic Type (Lower Nephron Nephrosis) consists of transfusions during emergency period; restrictions of fluids (1000 to 1500 cc. of fluid in 24 hours) high calorie diet; administration of sodium chloride-free fluids upon onset of diuresis; use of continual gastric and duodenal lavage for persistent uremia.

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OBSTETRICS

The Prophylactic Use of Molybdenum-Iron Complex In Pregnant Patients

Dieckmann, W. J., et al., Am. J. Obst. & Gynec. 59:442, 1950

Routine administration of three Mol-Iron tablets* daily for thirty days late in pregnancy has been adopted by the authors as a means of attaining satisfactory hemoglobin values at term.

* *White Laboratories, Inc.*

VENEREAL DISEASE

Chloramphenicol And The Venereal Diseases

Willcox, R. R., Brit. M. J. 1:467, 1950

In four cases of early syphilis, lesions healed in an average of 6.25 days following administration of Chloromycetin in doses of 1.75 Gm. to 3 Gm. for three to five days. Dark fields became negative within twenty-four hours in three cases and seventy-two hours in one case. Two patients with gonorrhea responded satisfactorily to Chloromycetin therapy.

VITAMIN B_{12}

The Effect Of Vitamin B_{12} On The Hematologic And Neurologic Manifestations Of Pernicious Anemia

Mueller, J. F., et al., Ohio State M. J. 46:225, 1950

Vitamin B_{12} is as effective as liver extract but like the extract, it is ineffective in refractory megaloblastic anemia and the anemia of cirrhosis. "The one real indication for Vitamin B_{12} occurs in the patient with pernicious anemia who is sensitive to liver extract."

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